

# 2015 Third IAPR Asian Conference on Pattern Recognition



# ACPR 2015

3 - 6 November 2015 • Kuala Lumpur, Malaysia



# Welcome Message from the Chair

On behalf of the ACPR2015 organizing committee, we are delighted to welcome you to Kuala Lumpur, Malaysia for the Third Asian Conference on Pattern Recognition (ACPR2015). The ACPR was initiated to promote the scientific exchanges and collaborations of pattern recognition researchers in the Asia-Pacific Region, and it also welcomes participation from the other regions of the world. The third ACPR follows the previous editions, ACPR2011 in Beijing, China, and ACPR2013 in Naha, Okinawa, Japan. For the ACPR2015, we invite you to take advantage of the technical program and meanwhile experience the culture of the Southeast Asian city Kuala Lumpur.

The technical program is no doubt the most important part of the conference ACPR2015. By the submission deadline of July 17, 2015, the program committee received 422 full submissions from 33 countries. The program chairs invited 107 program committee members and 128 additional reviewers to review the submitted papers. Each paper received at least two reviews, and most papers each received three reviews. Based on reviews, the program committee accepted 36 papers for oral presentations and 134 papers for poster presentations.

The technical program includes nine oral sessions, three poster sessions, and four invited keynote speeches. The keynote speeches are given by four internationally renowned researchers active in pattern recognition and computer vision. They are: Tieniu Tan (China) with speech title “Large-Scale Visual Computing: Challenges and Opportunities”, Ching Y. Suen (Canada) with speech title “Methods of Achieving Perfect Recognition Scores”, Maja Pantic (UK) with speech title “Automatic Analysis of Facial Expressions”, and Yoshua Bengio (Canada) with speech title “Deep Learning”.

We would like to thank all the authors for submitting their papers to ACPR2015, the program committee members and reviewers for reviewing the papers. Without their efforts, the ACPR2015 could not have taken place. We thank the workshop chairs, Jing-Ming Guo, Seichi Uchida and Michael Blumenstein for organizing two workshops, the tutorial chairs, Anoop M. Namboodiri and Dorothy Monekosso for organizing one tutorial, the Doctoral Consortium (DC) chair, P. Shivakumara for organizing the first DC in the history of ACPR. We are also grateful to the local arrangements team for their diligent efforts in arranging the logistics.

We hope all the delegates spend a pleasant time in Kuala Lumpur, and find the ACPR2015 a fruitful event.

Umapada Pal, Cheng-Lin Liu, Rama Chellappa (General Chairs)  
Koichi Kise, Liang Wang, Paolo Remagnino, Hyeran Byun (Program Chairs)  
Raveendran Parameswaran, Chee Seng Chan (Organizing Chairs)

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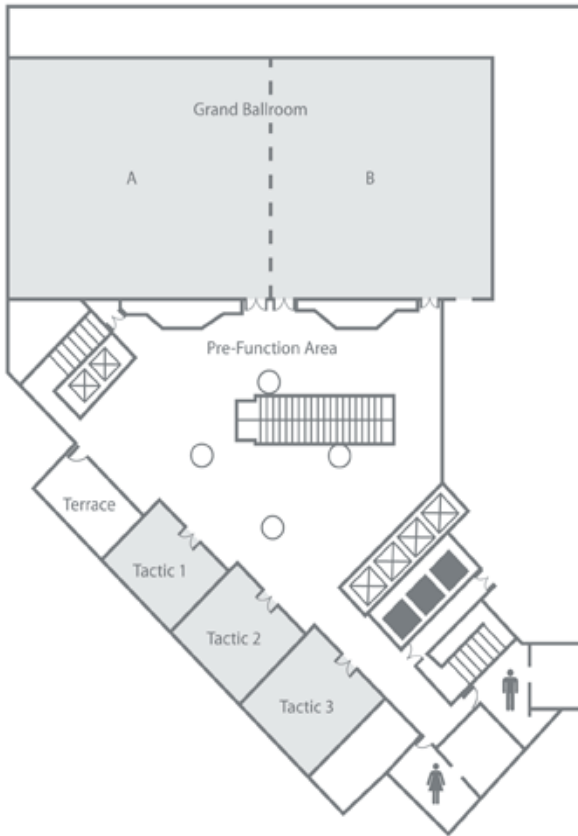
## PUBLICATION CHAIRS

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Sze Ling Tang (Uni. of Malaya, Malaysia)

## LOCAL ARRANGEMENT CHAIRS

Chern Hong Lim (Telekom RnD, Malaysia)  
Wai Lam Hoo (Uni. of Malaya, Malaysia)

# Floor Plan





# IAPR Keynote Lecture I:

## Large-Scale Visual Computing: Challenges and Opportunities

**Tieniu Tan**

***Chinese Academy of Science, PR China***

**November 4 (Wednesday), 2015**

The widespread deployment of visual sensors such as surveillance cameras leads to the explosion of visual data. The timely processing and understanding of such massive information presents a clear challenge as well as a great opportunity for computer vision. This talk starts with a brief introduction to the concept of large-scale visual computing and outlines the status quo of the field as well as the main research challenges. It focuses on discussing some of the key issues in large-scale visual computing such as large-scale feature representation and large-scale modelling. It also discusses some promising directions for future research.

### Biography of Speaker



**Tieniu Tan** received his B.Sc. degree in electronic engineering from Xi'an Jiaotong University, China, in 1984, and his MSc and PhD degrees in electronic engineering from Imperial College London, U.K., in 1986 and 1989, respectively. In October 1989, he joined the Department of Computer Science, The University of Reading, U.K., where he worked as a Research Fellow, Senior Research Fellow and Lecturer. In January 1998, he returned to China to join the National Laboratory of Pattern Recognition (NLPR), Institute of Automation of the Chinese Academy of Sciences (CAS) as a full professor. He was the Director General of the CAS Institute of Automation from 2000-2007, and the Director of the NLPR from 1998-2013. He is currently Director of the Center for Research on Intelligent Perception and Computing at the Institute of Automation and also

serves as Deputy Secretary-General of the CAS and the Director General of the CAS Bureau of International Cooperation. He has published more than 450 research papers in refereed international journals and conferences in the areas of image processing, computer vision and pattern recognition, and has authored or edited 11 books. He holds more than 70 patents. His current research interests include biometrics, image and video understanding, and information forensics and security. Dr Tan is a Member (Academician) of the Chinese Academy of Sciences, Fellow of The World Academy of Sciences for the advancement of sciences in developing countries (TWAS), an International Fellow of the UK Royal Academy of Engineering, and a Fellow of the IEEE and the IAPR (the International Association of Pattern Recognition). He is Editor-in-Chief of the International Journal of Automation and Computing. He has given invited talks and keynotes at many universities and international conferences, and has received numerous national and international awards and recognitions.

# **IAPR Keynote Lecture II:**

## **Automatic Analysis of Facial Expressions**

**Maja Pantic**  
*Imperial College, UK*

**November 5 (Thursday), 2015**

Facial behaviour is our preeminent means to communicating affective and social signals. This talk discusses a number of components of human facial behavior, how they can be automatically sensed and analysed by computers, what is the past research in the field conducted by the iBUG group at Imperial College London, and how far we are from enabling computers to sense and recognise human facial expressions and behaviour.

### **Biography of Speaker**

**Maja Pantic** obtained her PhD degree in computer science in 2001 from Delft University of Technology, the Netherlands. Until 2005, she was an Assistant/ Associate Professor at Delft University of Technology. In 2006, she joined the Imperial College London, Department of Computing, UK, where she is Professor of Affective & Behavioural Computing and the Head of the iBUG group, working on machine analysis of human non-verbal behaviour. From November 2006, she also holds an appointment as the Professor of Affective & Behavioural Computing at the University of Twente, the Netherlands. Prof. Pantic is one of the world's leading experts in the research on machine understanding of human behavior including vision-based detection, tracking, and analysis of human behavioral cues like facial expressions and body gestures, and multimodal analysis of human behaviors like laughter, social signals, and affective states. She has published more than 200 technical papers on her research in the field. Her work is widely cited and was covered by popular press many times (including by New Scientist, BBC Radio, and NL TV 1 and 3). In 2011, Prof. Pantic received BCS Roger Needham Award, awarded annually to a UK based researcher for a distinguished research contribution in computer science within ten years of their PhD. Prof. Pantic serves as the Editor in Chief of the Image and Vision Computing Journal (IVCJ/ IMAVIS), an Associate Editor of the IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI), and an Associate Editor of the IEEE Transactions on Affective Computing (IEEE TAC). She is an IEEE Fellow.



# IAPR Keynote Lecture III:

## Methods of Achieving Perfect Recognition Scores

**Ching Yee Suen**

***Concordia University, Canada***

**November 5 (Thursday), 2015**

Recognition systems inevitably make some errors somewhere at some time. Achieving perfect recognition without making errors has been the dream of researchers in the field of pattern recognition. This talk summarizes my efforts and experiences towards this goal. The first part of this talk will describe my early efforts in building different types of classifiers based on structural analyses and skeletonization, density distributions, neural networks, tree hierarchies, support vectors, and so on. To improve the recognition rates further, multiple classifiers were explored involving numerous types of geometric and structural features, and ensembles of hybrid classifiers. Later, error reduction machines were introduced and investigated. Several effective ways of heading towards perfect scores will be presented with real-life examples and promising research results.

### Biography of Speaker



**Ching Yee Suen** is the Director of CENPARMI and the Concordia Chair on AI & Pattern Recognition. He received his Ph.D. degree from UBC (Vancouver) and his Master's degree from the University of Hong Kong. He has served as the Chairman of the Department of Computer Science and as the Associate Dean (Research) of the Faculty of Engineering and Computer Science of Concordia University. Prof. Suen has served at numerous national and international professional societies as President, Vice-President, Governor, and Director. He has given 45 invited/keynote papers at conferences and 195 invited talks at various industries and academic

institutions around the world. He has been the Principal Investigator or Consultant of 30 industrial projects. His research projects have been funded by the ENCS Faculty and the Distinguished Chair Programs at Concordia University, FCAR (Quebec), NSERC (Canada), the National Networks of Centres of Excellence (Canada), the Canadian Foundation for Innovation, and the industrial sectors in various countries, including Canada, France, Japan, Italy, and the United States. Dr. Suen has published 4 conference proceedings, 12 books and more than 495 papers, and many of them have been widely cited while the ideas in others have been applied in practical environments involving handwriting recognition, thinning methodologies, and multiple classifiers. Dr. Suen is the recipient of numerous awards, including the Gold Medal from the University of Bari (Italy 2012), the IAPR ICDAR Award (2005), the ITAC/NSERC national award (1992), and the "Concordia Lifetime Research Achievement" and "Concordia Fellow" Awards (2008 and 1998 respectively). He is a fellow of the IEEE (since 1986), IAPR (1994), and the Academy of Sciences of the Royal Society of Canada (1995). Currently, he is the Editor-in-Chief of the journal of Pattern Recognition and an Adviser or Associate Editor of 5 journals.

# IAPR Keynote Lecture IV:

## Deep Learning

**Yoshua Bengio**

*University of Montreal, Canada*

**November 6 (Friday), 2015**

Deep learning has arisen around 2006 as a renewal of neural networks research allowing such models to have more layers. Theoretical investigations have shown that functions obtained as deep compositions of simpler functions (which includes both deep and recurrent nets) can express highly varying functions (with many ups and downs and different input regions that can be distinguished) much more efficiently (with fewer parameters) than otherwise. Empirical work in a variety of applications has demonstrated that, when well trained, such deep architectures can be highly successful, remarkably breaking through previous state-of-the-art in many areas, including speech recognition, object recognition, language models, and transfer learning. This talk will summarize the advances that have made these breakthroughs possible, and end with questions about some major challenges still ahead of researchers in order to continue our climb towards AI-level competence.

## Biography of Speaker

**Yoshua Bengio** received a PhD in Computer Science from McGill University, Canada in 1991. After two post-doctoral years, one at M.I.T. with Michael Jordan and one at AT&T Bell Laboratories with Yann LeCun and Vladimir Vapnik, he became professor at the Department of Computer Science and Operations Research at Université de Montréal. He is the author of two books and more than 200 publications, the most cited being in the areas of deep learning, recurrent neural networks, probabilistic learning algorithms, natural language processing and manifold learning. He is among the most cited Canadian computer scientists and is or has been associate editor of the top journals in machine learning and neural networks. Since '2000 he holds a Canada Research Chair in Statistical Learning Algorithms, since '2006 an NSERC Industrial Chair, since '2005 his is a Senior Fellow of the Canadian Institute for Advanced Research and since 2014 he co-directs its program focused on deep learning. He is on the board of the NIPS foundation and has been program chair and general chair for NIPS. He has co-organized the Learning Workshop for 14 years and co-created the new International Conference on Learning Representations. His current interests are centered around a quest for AI through machine learning, and include fundamental questions on deep learning and representation learning, the geometry of generalization in high-dimensional spaces, manifold learning, biologically inspired learning algorithms, and challenging applications of statistical machine learning.





# **Tutorial I:**

## **Medical Image Analysis**

**Sarah Barman**  
***Kingston University, UK***

**November 3 (Tuesday), 2015**

The opportunities to use imaging to assist clinicians with diagnosis and assessment of the effectiveness of treatment plans have increased rapidly over the last few decades due to developments in imaging technologies and computer processing power. Many different medical image modalities exist such as Ultrasound, Magnetic Resonance Imaging (MRI), Computed Tomography (CT), etc. Development of computer vision algorithms have allowed researchers to refine medical image analysis techniques to assist clinicians in many aspects of patient medical care and research into causes of different conditions. Examples include diverse applications that range from diagnosis of lung nodules in MRI images, to recognition of the first signs of diabetic retinopathy in screening programmes that examine retinal fundus images. The computer vision techniques employed to achieve effective medical image analysis applications, encompass many areas of research and range from machine learning approaches to morphological techniques.

The tutorial will aim to examine some of the main medical imaging modalities and describe the different computer vision algorithms applied to them. The difficulties encountered and limitations of existing work will be discussed with specific examples. Examples will be covered that illustrate how recognition of features on a medical image can assist with diagnosis of a condition. Further examples will examine how quantification of features on a medical image can assist with epidemiological research studies to understand causes and progression of the disease process.

### **Biography of Speaker**

**Sarah Barman** is currently an Associate Professor in the Faculty of Science, Engineering and Computing at Kingston University where she leads research into retinal image analysis and is Research Director in the School of Computing and Information Systems. After completing her PhD in optical physics at King's College London she took up a postdoctoral position for the next four years, also at King's College, in image analysis. In 2000 she joined Kingston University. Dr Barman is a member of the UK Biobank Eye and Vision consortium and is also a member of the Institute of Physics and is a registered Chartered Physicist. She is a member of the Program Committee of the International Conference on Image Analysis and Recognition 2015, and a Technical Committee member of the Medical Image Analysis and Understanding conference 2014. Dr Barman is a reviewer of UK research council and EU grants and held membership of the EPSRC College and Healthcare panel for six years. Current projects led by Dr Barman are funded by the Medical Research Council and Fight for Sight. Previous project funding has included support from UK research councils, the Leverhulme Trust, BUPA foundation and the Royal Society. She is the author of over 90 international scientific publications and book chapters. Dr Barman's main area of interest in research is in the field of medical image analysis. Her work is currently focused on research into novel image analysis techniques to enable the recognition and quantification of features in ophthalmic images. Examples of this work include vessel width and tortuosity measurement on very large retinal fundus datasets, in addition to abnormality detection in diabetic retinopathy images. Dr Barman's lecturing experience includes courses that have covered computer programming, e-health and telemedicine and project management.



# **Workshop I:**

## **International Workshop on Learning Semantics for Multimedia Big Data (LSMBD)**

**Organiser:**

**Kai-Lung Hua, *National Taiwan University of Science and Technology,  
Taiwan***

**Wen-Huang Cheng, *Academia Sinica, Taiwan***

**Lai-Kuan Wong, *Multimedia University, Malaysia***

**Chin-Kuan Ho, *Multimedia University, Malaysia***

**November 3 (Tuesday), 2015**

Recent advance and development of multimedia technologies have enlightened the creation of intuitive and ubiquitous human-computer communication environment to make our life easier. Such progress of emerging multimedia technologies would result in revolutionary changes of our daily practices, such as shopping, traveling, and social networking. Recently the increasingly massive and complex multimedia data bring new challenges for learning semantics: as data volumes grow to the extent, the traditional solution will not be able to handle effectively. The workshop on Learning Semantics for Multimedia Big Data, LSMBD 2015, aims to bring together researchers and professionals from worldwide academia and industry for showcasing, discussing, and reviewing the whole spectrum of technological opportunities, challenges, solutions, and emerging applications in learning semantics for big data.

Workshop keynote talk:

- “*Selective Visual Attention: Computational Models and Applications*”,  
Weisi Lin, Nanyang Technological University, Singapore

# **Workshop II:**

## **International Workshop on Human Behavior Analysis in the Real World**

**Organiser:**

**Ikuhisa Mitsugami, *Osaka University, Japan*  
Drazen Brscic, *ATR, Japan***

**November 3 (Tuesday), 2015**

With advances in sensors, pattern recognition and multimedia data processing techniques, computer systems and autonomous robots have become intelligent enough that they can understand human behaviors to a certain extent. Currently, equipped with state-of-the-art machine learning methods like deep learning, it seems that what we should do is just to collect large learning data for the machine. This is, however, not true indeed and unfortunately there is still a large gap between the current achievements and reality. For example, many existing studies evaluate their performance just on well-controlled datasets, which is quite far from reality, and there are many behaviors whose labels cannot be defined, etc. Now is the time when we should consider what problems exist in the gap and how to solve them. This workshop will gather researchers dealing with these problems. Not only the sensors, pattern recognition, and multimedia data processing studies, but also the ones about the application of social robots in real environments, human attention, social investigations, or legal issues related to privacy problems can be accepted for the workshop. This workshop is jointly proposed by two JST-CREST projects; “Enabling a Mobile Social Robot to Adapt to a Public Space in a City” and “Behavior Understanding based on Intention-Gait Model.”

Workshop Keynote talk:

- “*Behavior Understanding based on Intention-Gait Model*”, Yasushi Yagi and Ikuhisa Mitsugami, Osaka University, Japan.
- “*Enabling a Mobile Social Robot to Adapt to a Public Space in a City*”, Takayuki Kanda, ATR, Japan.

## ***Program at a Glance***

<b>03<sup>rd</sup> November, Tuesday</b>		
Time/Venue	Ballroom A	Tactic 3
08:00-09:00	Breakfast	
09:00-10:30	Tutorial I: Medical Image Analysis (Part 1)	Workshop I: International Workshop on Learning Semantics for Multimedia Big Data (LSMBD) (Part 1)
10:30-10:50	Coffee Break	
10:50-12:50	Tutorial I: Medical Image Analysis (Part 2)	Workshop I: International Workshop on Learning Semantics for Multimedia Big Data (LSMBD) (Part 2)
12:50-14:00	Lunch Break (Nook Restaurant)	
14:00-15:30	Doctoral Consortium (Part 1)	Workshop II: International Workshop on Human Behavior Analysis in the Real World (Part 1)
15:30-15:50	Coffee Break	
15:50-17:50	Doctoral Consortium (Part 2)	Workshop II: International Workshop on Human Behavior Analysis in the Real World (Part 2)
18:30-20:30	Welcome Reception (Mai Bar, Rooftop)	



## 04<sup>th</sup> November. Wednesday

Time/Venue	Ballroom A	Ballroom B
08:00-09:00	Breakfast	
09:00-09:20	Opening Ceremony	
09:20-10:10	IAPR Keynote Lecture I: Large-Scale Visual Computing: Challenges and Opportunities	
10:10-10:40	Coffee Break	
10:40-12:40	Oral Session 1: Faces and Persons	
12:40-14:00	Lunch Break (Nook Restaurant)	
14:00-15:40	Oral Session 2: Object Recognition	
15:40-17:10	Coffee Break	
		Demo Session Poster Session 1
17:30	Transfer to Banquet Dinner (Wait at Conference Hotel Lobby)	
19:00-22:30	Banquet Dinner at KL Tower	

## 05<sup>th</sup> November. Thursday

Time/Venue	Ballroom A	Ballroom B	Tactic 3
08:00-09:00	Breakfast		
09:00-09.50	IAPR Keynote Lecture II: Automatic Analysis of Facial Expressions		
09:50-10:50	Oral Session 3: Machine Learning		
10:50-11:20	Coffee Break		
11:20-12:40	Oral Session 4: Image Processing		
12:40-14:00	Lunch Break (Nook Restaurant)		
14:00-14:50	IAPR Keynote Lecture III: Methods of Achieving Perfect Recognition Scores		
14:50-16:20	Coffee Break		
		Demo Session Poster Session 2	
16:20-18:00	Oral Session 5: Media Processing		
18:00-18:30			ACPR 2017 Bidding

## 06<sup>th</sup> November. Friday

Time/Venue	Ballroom A	Ballroom B
08:00-09:00	Breakfast	
09:00-09:50	IAPR Keynote Lecture IV: Deep Learning	
09:50-10:50	Oral Session 6: Clustering	
10:50-11:20	Coffee Break	
11:20-12:40	Oral Session 7: Action Recognition, Detection and Tracking	
12:40-14:00	Lunch Break (Nook Restaurant)	
14:00-15:00	Oral Session 8: Image Retrieval and Recognition	
15:00-16:30	Coffee Break	
		Demo Session Poster Session 3
16:30-17:30	Oral Session 9: Features	
17:30-18:00	Closing Ceremony	

## **Detailed Technical Program**

### **Session: OS1 – Oral Session 1: Faces and Persons**

Chair: Liang Wang

Date/Time: Wednesday, 04<sup>th</sup> November 2015, 10:40 – 12:40

Venue: *Ballroom A*

OS1-01	Simultaneous Blurred Face Restoration and Recognition – <i>Jun Li, Shasha Li, Jiani Hu &amp; Weihong Deng</i>
OS1-02	Hallucination Space Relationship Learning to Improve Very Low Resolution Face Recognition – <i>Juhyun Ahn, Daijin Kim &amp; Sue Inn Ch'ng</i>
OS1-03	Robust Local Representation for Face Recognition with Single Sample Per Person – <i>Xing Wang, Meng Yang, Linlin Shen &amp; Heyou Chang</i>
OS1-04	Joint Space Learning for Video-based Face Recognition – <i>Dong Cao, Ran He, Zhenan Sun &amp; Tieniu Tan</i>
OS1-05	DeNet: An Explicit Distance Ensemble Model for Person Re-identification – <i>Jin Wang, Changxin Gao, Jing Hu &amp; Nong Sang</i>
OS1-06	Depth-based Person Re-identification – <i>Ancong Wu, Wei-Shi Zheng &amp; Jian-Huang Lai</i>

### **Session: OS2 – Oral Session 2: Object Recognition**

Chair: Soo-Hyung Kim

Date/Time: Wednesday, 04<sup>th</sup> November 2015, 14:00 – 15:40

Venue: *Ballroom A*

OS2-01	Enhancing RGB CNNs with Depth – <i>Arjun Sharma &amp; Pramod Sankar K</i>
OS2-02	Multi-staged Deep Learning with Created Coarse and Appended Fine Categories – <i>Reiko Hagawa, Yasunori Ishii &amp; Sotaro Tsukizawa</i>
OS2-03	Structure-driven Facade Parsing With Irregular Patterns – <i>Jinglu Wang, Chun Liu, Tianwei Shen &amp; Long Quan</i>
OS2-04	Video-based Object Recognition with Weakly Supervised Object Localization – <i>Yang Liu, Rigas Kouskouridas &amp; Tae-Kyun Kim</i>
OS2-05	Mirrored Non-Maximum Suppression for Accurate Object Part Localization – <i>Lianrui Fu, Junge Zhang &amp; Kaiqi Huang</i>



## Session: PS1 – Poster Session 1

Chair: Huei-Yung Lin

Date/Time: Wednesday, 04<sup>th</sup> November 2015, 15.40 – 17.10

Venue: *Ballroom B*

PS1-01	Unsupervised Daily Routine Modelling from a Depth Sensor using Bottom-Up and Top-Down Hierarchies – <i>Yangdi Xu, Dave Bull &amp; Dima Damen</i>
PS1-02	An Extension of PatchMatch Stereo for 3D Reconstruction from Multi-View Images – <i>Mutsuki Hiradate, Koichi Ito, Takafumi Aoki, Takafumi Watanabe &amp; Hiroki Unten</i>
PS1-03	Spatial Distribution Feature for 3D Indoor Scene Labelling – <i>Yankun Lang, Haiyuan Wu &amp; Qian Chen</i>
PS1-04	Video-level Violence Rating with Rank Prediction – <i>Yu Wang &amp; Jien Kato</i>
PS1-05	Occluded Pedestrian Detection with a Probability Density Deformable Part Model – <i>Yanwei Pang, Yang Wu, Jing Pan &amp; Yuqing He</i>
PS1-06	WA-ICP Algorithm for Tackling Ambiguous Correspondence – <i>Rong Wang &amp; Zheng Geng</i>
PS1-07	Coherent Motion Regions Dynamic Segmentation in Crowded Scenes – <i>Nan Dong &amp; Jie Shao</i>
PS1-08	Color Reprint for Hypochromatopsia Correction – <i>Li-Qi Chen, Huei-Yung Lin &amp; Min-Liang Wang</i>
PS1-09	Person Re-Identification Using Color Enhancing Feature – <i>Peng Li, Haiyuan Wu, Qian Chen &amp; Chongke Bi</i>
PS1-10	Online Selection of Discriminative Features with Approximated Distribution Fields for Efficient Object Tracking – <i>Qiang Guo, Chendong Wu &amp; Yingchun Zhao</i>
PS1-11	Traffic Sign Detection from Video: A Fast Approach with Tracking – <i>Dongdong Wang, Xinwen Hou &amp; Cheng-Lin Liu</i>
PS1-12	Action Recognition by Single Stream Convolutional Neural Networks: An Approach using Combined Motion and Static Information – <i>Sameera Ramasinghe &amp; Ranga Rodrigo</i>
PS1-13	Exploiting High-Speed Sequences for Background Subtraction – <i>Niklas Bergstrom, Nils Ståhl &amp; Masatoshi Ishikawa</i>
PS1-14	Multi-attribute Learning for Pedestrian Attribute Recognition in Surveillance Scenarios – <i>Dangwei Li, Xiaotang Chen &amp; Kaiqi Huang</i>
PS1-15	Practical Pose Normalization for Pose-Invariant Face Recognition – <i>Zhongjun Wu, Shan Li &amp; Weihong Deng</i>

PS1-16	Deep Neural Networks for Recognizing Online Handwritten Mathematical Symbols – <i>Hai Nguyen, Anh Le &amp; Masaki Nakagawa</i>
PS1-17	Principal Affinity based Cross-Modal Retrieval – <i>Jian Liang, Dong Cao, Ran He, Zhenan Sun &amp; Tieniu Tan</i>
PS1-18	A Hybrid Method for Table Detection from Document Image – <i>Tuan Anh Tran, In-Seop Na &amp; Soo-Hyung Kim</i>
PS1-19	Real-time Sign Language Fingerspelling Recognition using Convolutional Neural Networks from Depth Map – <i>Byeongkeun Kang, Subarna Tripathi &amp; Truong Nguyen</i>
PS1-20	Learning Temporal Features Using LSTM-CNN Architecture for Face Anti-spoofing – <i>Zhenqi Xu, Shan Li &amp; Weihong Deng</i>
PS1-21	Towards a Segmentation and Recognition-free Approach for Content-based Document Image Retrieval of Handwritten Queries – <i>Houssem Chatbri, Keisuke Kameyama &amp; Paul Kwan</i>
PS1-22	Script Independent Scene Text Segmentation using Fast Stroke Width Transform and GrabCut – <i>Jay Bosamiya, Palash Agrawal, Partha Pratim Roy &amp; Balasubramanian Raman</i>
PS1-23	Local Feature Reliability Measure Using Multiview Synthetic Images for Mobile Visual Search – <i>Kohei Matsuzaki, Yusuke Uchida, Shigeyuki Sakazawa &amp; Shin'Ichi Satoh</i>
PS1-24	Online Handwritten Cursive Word Recognition Using Segmentation-free and Segmentation-based Methods – <i>Bilan Zhu, Arti Shivram, Venu Govindaraju &amp; Masaki Nakagawa</i>
PS1-25	Spatiotemporal Auto-Correlation of Grayscale Gradient with Importance Map for Cooking Gesture Recognition – <i>Wataru Ohyama, Soichiro Hotta &amp; Tetsushi Wakabayashi</i>
PS1-26	An Incremental Recognition Method for Online Handwritten Mathematical Expressions – <i>Khanh Phan, Cuong Tuan Nguyen, Anh Le &amp; Masaki Nakagawa</i>
PS1-27	An Improved Segmentation of Online English Handwritten Text using Recurrent Neural Networks – <i>Cuong Tuan Nguyen &amp; Masaki Nakagawa</i>
PS1-28	Improved Shape Code Based Word Matching For Multi-script Documents – <i>Tanmoy Mondal, Arundhuti Tarafdar, Jean-Yves Ramel, Nicolas Ragot &amp; Umapada Pal</i>
PS1-29	Generating Unsupervised Models for Online Long-Term Daily Living Activity Recognition – <i>Farhood Negin, Serhan Cosar, Michal Koperski &amp; Francois Bremond</i>

PS1-30	Transposed Discriminative Low-Rank Representation for Face Recognition – <i>Hoangvu Nguyen, Wankou Yang &amp; Changyin Sun</i>
PS1-31	Augmented Text Character Proposals and Convolutional Neural Networks for Text Spotting from Scene Images – <i>Alessandro Zamberletti, Ignazio Gallo &amp; Lucia Noce</i>
PS1-32	Float Greedy-search-based Subspace Clustering – <i>Lingxiao Song, Man Zhang, Qi Li, Ran He &amp; Zhenan Sun</i>
PS1-33	High Order Graphlets for Pattern Classification – <i>Anjan Dutta &amp; Hichem Sahbi</i>
PS1-34	Towards Parameter-less Support Vector Machines – <i>Jakub Nalepa, Krzysztof Siminski &amp; Michal Kawulok</i>
PS1-35	Uniform Low-Rank Representation for Unsupervised Visual Domain Adaptation – <i>Pengcheng Liu, Peipei Yang, Kaiqi Huang &amp; Tieniu Tan</i>
PS1-36	A Novel Feature Reduction Framework for Digital Mammogram Image Classification – <i>Hajar Alharbi, Gregory Falzon &amp; Paul Kwan</i>
PS1-37	A Bottom-Up Dictionary Learning based Classification for Face Recognition – <i>Heyou Chang, Meng Yang &amp; Jian Yang</i>
PS1-38	Character-Position-Free On-line Handwritten Japanese Text Recognition – <i>Jianjuan Liang, Bilan Zhu, Taro Kumagai &amp; Masaki Nakagawa</i>
PS1-39	Bayesian Nonparametric Inference of Latent Topic Hierarchies for Multimodal Data – <i>Takuji Shimamawari, Koji Eguchi &amp; Atsuhiro Takasu</i>
PS1-40	Lung Segmentaion with Improved Graph Cuts on Chest CT Images – <i>Shuangfeng Dai, Ke Lu &amp; Jiyang Dong</i>
PS1-41	Aero-thermal Radiation Correction via Multi-scale Bias Field Estimation – <i>Lerenhan Li, Luxin Yan, Nong Sang, Changxin Gao &amp; Jing Hu</i>
PS1-42	Text Line Extraction of Curved Document Images using Hybrid Metric – <i>Zuming Huang, Jie Gu, Gaofeng Meng &amp; Chunhong Pan</i>
PS1-43	Fast Interactive Segmentation in Stereo Images Based on Multi-scale Graph – <i>Wei Ma, Xiaohui Qiu, Luwei Yang, Shuo Liu &amp; Lijuan Duan</i>
PS1-44	My Camera Can See Through Fences: A Deep Learning Approach for Image De-fencing – <i>Sankaraganesh Jonna, Krishna Nakka &amp; Rajiv Sahay</i>
PS1-45	Unveiling Contrast Within Darkness – <i>Yuen Peng Loh &amp; Chee Seng Chan</i>
PS1-46	Robust Feature Matching via Multiple Descriptor Fusion – <i>Yuan-Ting Hu &amp; Yen-Yu Lin</i>

Session: OS3 – Oral Session 3: Machine Learning	
Chair: Ke Lu	
Date/Time: Thursday, 05 <sup>th</sup> November 2015, 09:50 – 10:50	
Venue: <i>Ballroom A</i>	
OS3-01	Distributed Forests for MapReduce-based Machine Learning – <i>Ryoji Wakayama, Ryuei Murata, Akisato Kimura, Takayoshi Yamashita, Yuji Yamauchi &amp; Hironobu Fujiyoshi</i>
OS3-02	Supervised Topology Preserving Hashing – <i>Shu Zhang, Man Zhang, Qi Li, Tieniu Tan &amp; Ran He</i>
OS3-03	Laplacian Pyramids for Deep Feature Inversion – <i>Aniket Singh &amp; Anoop Namboodiri</i>

Session: OS4 – Oral Session 4: Image Processing	
Chair: Koichi Kise	
Date/Time: Thursday, 05 <sup>th</sup> November 2015, 11:20 – 12:40	
Venue: <i>Ballroom A</i>	
OS4-01	Efficient Cepstrum Analysis based UNLM PSF Estimation in Single Blurred Image – <i>Yuta Shimamoto, Qian Chen, Xiang Ruan &amp; Haiyuan Wu</i>
OS4-02	Single-Image Super-Resolution using Clustering-Based Global Regression and Propagation Filtering – <i>Wenming Yang, Yapeng Tian, Fei Zhou, Tingrong Yuan, Xuesen Shang &amp; Qingmin Liao</i>
OS4-03	Temporally Coherent Disparity Maps using CRFs with Fast 4D Filtering – <i>Siavash Arjomand Bigdeli, Matthias Zwicker &amp; Gregor Budweiser</i>
OS4-04	A Learned Overcomplete Sparseness and IGMRF Based Regularization Framework For Dense Disparity Estimation – <i>Sonam Nahar &amp; Manjunath Joshi</i>

Session: PS2 – Poster Session 2	
Chair: Nong Sang	
Date/Time: Thursday, 05 <sup>th</sup> November 2015, 14:50 – 16:20	
Venue: <i>Ballroom B</i>	
PS2-01	Steerable Second Order Intensity Features for Pedestrian Detection – <i>Sing Kuang Tan, Tat-Jen Cham &amp; Jianxin Wu</i>
PS2-02	Linear Multimodal Fusion in Video Concept Analysis Based on Node Equilibrium Model – <i>Jie Geng, Zhenjiang Miao, Qinghua Liang &amp; Shu Wang</i>

PS2-03	Multi-Cut Light Field Depth Estimation – <i>Thoma Papadhimetri &amp; Onay Urfalioglu</i>
PS2-04	Privacy-conscious Human Detection Using Low-resolution Video – <i>Nobuhiro Miyazaki, Kentaro Tsuji, Mingxie Zheng, Moyuri Nakashima, Yuji Matsuda &amp; Eigo Segawa</i>
PS2-05	Visual Tracking via Multi-experts Combined with Average Hash Model – <i>Yachun Feng, Hong Zhang, Hao Chen, Helong Wang &amp; Ding Yuan</i>
PS2-06	Action Recognition Using Completed Local Binary Patterns and Multiple-class Boosting Classifier – <i>Yun Yang, Baochang Zhang, Linlin Yang, Chen Chen &amp; Wankou Yang</i>
PS2-07	Event Detection in Soccer Videos using Shot Focus Identification – <i>Wei Zhao, Yao Lu, Haohao Jiang &amp; Wei Huang</i>
PS2-08	Segmentation of 3D Image of a Rock Sample Supervised by 2D Mineralogical Image – <i>Igor Varfolomeev, Ivan Yakimchuk &amp; Boris Sharchilev</i>
PS2-09	Discriminant Statistical Analysis of Local Facial Geometrical Regions – <i>Misae Nakatsu, Xian-Hua Han, Ryosuke Kimura &amp; Yen-Wei Chen</i>
PS2-10	Supervised Spectral Subspace Clustering for Visual Dictionary Creation in the Context of Image Classification – <i>Imtiaz Ziko, Elisa Fromont, Damien Muselet &amp; Marc Sebban</i>
PS2-11	Appearance-based Multiple Fish Tracking for Collective Motion Analysis – <i>Kei Terayama, Koki Hongo, Hitoshi Habe &amp; Masa-aki Sakagami</i>
PS2-12	Efficient Multiclass Object Detection: Detecting Pedestrians and Bicyclists in a Truck's Blind Spot Camera – <i>Kristof Van Beeck &amp; Toon Goedemé</i>
PS2-13	Camera and Lidar Fusion for Pedestrian Detection – <i>Wang Jun &amp; Tao Wu</i>
PS2-14	Mixture Model based Color Clustering for Psoriatic Plaque Segmentation – <i>Anabik Pal, Anandarup Roy, Kushal Sen, Raghunath Chatterjee, Utpal Garain &amp; Swapan Senapati</i>
PS2-15	Specific Changes Detection in Visible-Band VHR Images using Classification Likelihood Space – <i>Feimo Li, Shuxiao Li, Chengfei Zhu, Xiaosong Lan &amp; Hongxing Chang</i>
PS2-16	Automated Prognosis Analysis for Traumatic Brain Injury CT Images – <i>Tianxia Gong, Bolan Su, Abhinit Ambastha, Chew Lim Tan &amp; Tchoyoson Lim</i>
PS2-17	New Texture-Spatial Features for Keyword Spotting in Video Images – <i>Palaiahnakote Shivakumara, Guozhu Liang, Sangheeta Roy, Umapada Pal &amp; Tong Lu</i>

PS2-18	Sketch-based Image Retrieval using Sketch Tokens – <i>Shu Wang &amp; Zhenjiang Miao</i>
PS2-19	Binary Matching for High-dimensional Image Descriptors – <i>Hongjun Wang, Jiani Hu &amp; Weihong Deng</i>
PS2-20	HEp-2 Cells Staining Patterns Classification via Wavelet Scattering Network and Random Forest – <i>Hongwei Li, Jianguo Zhang &amp; Wei-Shi Zheng</i>
PS2-21	Latent Factor Model Based Classification for Detecting Abnormalities in Retinal Images – <i>Tabish Syed &amp; Jayanthi Sivaswamy</i>
PS2-22	Writer Identification using Edge based Features – <i>Zhenyin Fan, Zhenhua Guo &amp; Youbin Chen</i>
PS2-23	Fine-Grain Annotation of Cricket Videos – <i>Rahul Sharma, Pramod Sankar K., &amp; Jawahar C.V.</i>
PS2-24	Handwritten Word Spotting in Indic Scripts using Foreground and Background Information – <i>Ayan Das, Ayan Kumar Bhunia, Partha Pratim Roy &amp; Umapada Pal</i>
PS2-25	Steerable Riesz Wavelet based Approach for Iris Recognition – <i>Shekar B H &amp; Sharada Bhat</i>
PS2-26	Similarity Learning Based on Pool-Based Active Learning for Manga Character Retrieval – <i>Motoi Iwata, Eiki Imazu &amp; Koichi Kise</i>
PS2-27	Real-time Fingertip Detection based on Depth Data – <i>Chaoyu Liang, Yonghong Song &amp; Yuanlin Zhang</i>
PS2-28	Estimation of Browsing States in Consumer Decision Processes from Eye Movements – <i>Erina Schaffer, Hiroaki Kawashima &amp; Takashi Matsuyama</i>
PS2-29	Hyperspectral Image Classification Using Gradient Local Auto-Correlations – <i>Chen Chen, Junjun Jiang, Baochang Zhang, Wankou Yang &amp; Jianzhong Guo</i>
PS2-30	Deep Learning using Heterogeneous Feature Maps for Mahout Networks – <i>Yasunori Ishii, Reiko Hagawa &amp; Sotaro Tsukizawa</i>
PS2-31	Towards Robust SVM Training from Weakly Labeled Large Data Sets – <i>Michal Kawulok &amp; Jakub Nalepa</i>
PS2-32	A Novel Local Success Weighted Ensemble Classifier – <i>Raghvendra Kannao &amp; Prithwijit Guha</i>
PS2-33	1000fps Human Segmentation with Deep Convolutional Neural Networks – <i>Chunfeng Song, Yongzhen Huang, Zhenyu Wang &amp; Liang Wang</i>

PS2-34	How to Initialize the CNN for small datasets: Extracting Discriminative Filters from Pre-trained Model – <i>Guanwen Zhang, Jien Kato, Yu Wang &amp; Kenji Mase</i>
PS2-35	A New Shape Descriptor Based on an Angular-Linear Probability Distribution – <i>Kazunori Iwata, Nobu Suematsu &amp; Akira Hayashi</i>
PS2-36	Low-Bit Representation of Linear Classifier Weights for Mobile Large-Scale Image Classification – <i>Yoshiyuki Kawano &amp; Keiji Yanai</i>
PS2-37	Occlusion-Robust Model Learning for Human Pose Estimation – <i>Yuki Kawana &amp; Norimichi Ukita</i>
PS2-38	Natural Human Gestures Classification using Multisensor Data – <i>Michał Cholewa &amp; Przemysław Glomb</i>
PS2-39	An Automatic Yearbook Style Photo Generation Method using Color Grading and Guide Image Filtering based Facial Skin Color Correction – <i>Tatsuya Baba, Keiichiro Shirai, Masahiro Okuda, Yusuke Tatesumi &amp; Paul Perrotin</i>
PS2-40	CRF with Locality-Consistent Dictionary Learning for Semantic Segmentation – <i>Yi Li, Yanqing Guo, Jun Guo, Ming Li &amp; Xiangwei Kong</i>
PS2-41	Skeleton-based Audio Envelope Shape Analysis – <i>Cong Yang, Oliver Tiebe, Marcin Grzegorzek &amp; Ewa Lukasik</i>
PS2-42	Robust Road Lane Detection using Extremal-Region Enhancement – <i>Jingchen Gu, Qieshi Zhang &amp; Sei-ichiro Kamata</i>
PS2-43	A novel Fuzzy LBP based Symbolic Representation Technique for Classification of Medicinal Plants – <i>Naresh Y G &amp; Nagendraswamy H.S</i>
PS2-44	Accent Classification with Phonetic Vowel Representation – <i>Zhenhao Ge, Yingyi Tan &amp; Aravind Ganapathiraju</i>

Session: OS5 – Oral Session 5: Media Processing	
Chair: Wataru Ohyama	
Date/Time: Thursday, 05 <sup>th</sup> November 2013, 16:20 – 18:00	
Venue: <i>Ballroom A</i>	
OS5-01	Facial Smile Detection Based on Deep Learning Features – <i>Kaihao Zhang, Yongzhen Huang, Hong Wu &amp; Liang Wang</i>
OS5-02	Segmentation and Recognition of Text written in 3D using Leap Motion Interface – <i>Chelsi Agrawal, Debi Prosad Dogra, Rajkumar Saini &amp; Partha Pratim Roy</i>
OS5-03	A New Sharpness based Approach for Character Segmentation in License Plate Images – <i>Vijeta Khare, Palaiahnakote Shivakumara, Raveendran Paramesran, Kim Meng Liang &amp; Hon Hock Woon</i>
OS5-04	A Study on Improvement of Airway Segmentation using Hybrid Method – <i>Qier Meng, Takayuki Kitasaka, Yukitaka Nimura, Masahiro Oda &amp; Kensaku Mori</i>
OS5-05	Nuclear Detection in 4D Microscope Images of Developing Embryo Using Enhanced Probability Map of Top-ranked Intensity-ordered Descriptors – <i>Xian-Hua Han, Yukako Tohsato, Koji Kyoda, Shuichi Onami, Ikuko Nishikawa, Yen-Wei Chen</i>

Session: OS6 – Oral Session 6: Clustering	
Chair: Umapada Pal	
Date/Time: Friday, 06 <sup>th</sup> November 2015, 09:50 – 10:50	
Venue: <i>Ballroom A</i>	
OS6-01	Adaptive Multi-view Clustering via Cross Trace Lasso – <i>Dong Wang, Ran He, Liang Wang &amp; Tieniu Tan</i>
OS6-02	Global and Local Consistent Multi-view Subspace Clustering – <i>Yanbo Fan, Ran He &amp; Baogang Hu</i>
OS6-03	Multi-Resolution Binary Shape Tree for Efficient 2D Clustering – <i>Csaba Beleznai, Andreas Zweng, Thomas Netousek &amp; Josef Alois Birchbauer</i>



Session: OS7 – Oral Session 7: Action Recognition, Detection and Tracking	
Chair: Chenglin Liu	
Date/Time: Friday, 06 <sup>th</sup> November 2015, 11:20 – 12:40	
Venue: <i>Ballroom A</i>	
OS7-01	Hierarchical Motion Evolution for Action Recognition – <i>Hongsong Wang, Wei Wang &amp; Liang Wang</i>
OS7-02	Skeleton Based Action Recognition with Convolutional Neural Network – <i>Yong Du, Yun Fu &amp; Liang Wang</i>
OS7-03	Reduce False Positives for Human Detection by a Priori Probability in Videos – <i>Lei Wang, Xu Zhao &amp; Yuncui Liu</i>
OS7-04	Multilayer Feature Combination for Visual Tracking – <i>Heng Fan, Jinhai Xiang &amp; Fuchuan Ni</i>

Session: OS8 – Oral Session 8: Image Retrieval and Recognition	
Chair: Chee Seng Chan	
Date/Time: Friday, 06 <sup>th</sup> November 2015, 14:00 – 15:00	
Venue: <i>Ballroom A</i>	
OS8-01	Efficient Graph Spanning Structures for Large Database Image Retrieval – <i>Bogdan Mocanu, Ruxandra Tapu &amp; Titus Zaharia</i>
OS8-02	Learning Clustered Subspaces for Sketch-based Image Retrieval – <i>Koustav Ghosal, Anoop Namboodiri, Prabhu Pandurang &amp; Riddhiman Dasgupta</i>
OS8-03	Multi-Pruning of Decision Trees for Knowledge Representation and Classification – <i>Mohammad Azad, Igor Chikalov, Shahid Hussain &amp; Mikhail Moshkov</i>

Session: PS3 – Poster Session 3	
Chair: Palaiahnakote Shivakumara	
Date/Time: Friday, 06 <sup>th</sup> November 2015, 15:00 – 16:30	
Venue: <i>Ballroom B</i>	
PS3-01	Trajectory-based Stereo Visual Odometry with Statistical Outlier Rejection – <i>JiYuan Zhang, Rui Gan, Gang Zeng, Falong Shen &amp; Hongbin Zha</i>
PS3-02	Face Recognition Using Implicit-Gabor and Nonlinear Subspace Analysis – <i>Xiaoxue Ye, Jing Pan, Yanwei Pang &amp; Yuqing He</i>
PS3-03	Multiple-dataset Traffic Sign Classification with OneCNN – <i>Fran Jurišić, Ivan Filković &amp; Zoran Kalafatić</i>
PS3-04	Mid-Level Parts Mined By Feature Selection For Action Recognition – <i>Shiwei Zhang, Nong Sang, Changxin Gao, Feifei Chen &amp; Jing Hu</i>

PS3-05	Semi-Global Depth from Focus – <i>Wentao Liu &amp; Xihong Wu</i>
PS3-06	Fine Pose Estimation of Known Objects in Cluttered Scene Images – <i>Sudipto Banerjee, Sanchit Aggarwal &amp; Anoop Namboodiri</i>
PS3-07	A Real-time LIDAR and Vision based Pedestrian Detection System for Unmanned Ground Vehicles – <i>Xiaofeng Han, Jianfeng Lu, Ying Tai &amp; Chunxia Zhao</i>
PS3-08	Hough-based Action Detection with Time-warped Voting – <i>Kensho Hara &amp; Kenji Mase</i>
PS3-09	Stereoscopic Image Warping for Enhancing Composition Aesthetics – <i>Md Baharul Islam, Lai Kuan Wong, Chee Onn Wong &amp; Kok-Lim Low</i>
PS3-10	A Novel Descriptor for Object Detection Using Histogram of Radon Projection – <i>Soorya Kumar &amp; Jiji C V</i>
PS3-11	Depth Estimation from a Single Image: An Integrated Approach using Convolutional Neural Networks and Shape from Shading – <i>Rajeswari P &amp; Jiji C V</i>
PS3-12	Robust Object Recognition in Wearable Eye Tracking System – <i>Mustafa Shdaifat, Andreas Dengel, Syed Bukhari &amp; Takumi Toyama</i>
PS3-13	Classification of Heart Sounds using Discrete and Continuous Wavelet Transform and Random Forests – <i>Prospero Jr. Naval, Christine Balili &amp; Caryssa Sobrepeña</i>
PS3-14	Human action recognition in the fractional Fourier domain – <i>Jia-xin Cai &amp; Guocan Feng</i>
PS3-15	Automatic Apex Frame Spotting in Micro-expression Database – <i>Sze Teng Liong, John See, KokSheik Wong, Anh Cat Le Ngo, Yee Hui Oh &amp; Raphael Phan</i>
PS3-16	Face Recognition with Occlusion – <i>Yingcheng Su, Zhenhua Guo, Yujiu Yang &amp; Wei-Guo Yang</i>
PS3-17	Video Text Detection with Text Edges and Convolutional Neural Network – <i>Ping Hu, Weiqiang Wang &amp; Ke Lu</i>
PS3-18	Layered Contextual Model For Face Alignment With Group Sparse Feature – <i>Falong Shen, JiYuan Zhang, Rui Gan, Jingdong Wang &amp; Gang Zeng</i>
PS3-19	Overwriting Repetition and Crossing-out Detection in Online Handwritten Text – <i>Nilanjana Bhattacharya, Volkmar Frinken, Umapada Pal &amp; Partha Pratim Roy</i>
PS3-20	Gaze Classification on a Mobile Device by using Deep Belief Networks – <i>Hyunsung Park &amp; Daijin Kim</i>

PS3-21	Text Detection in Born-Digital Images by Mass Estimation – <i>Jiamin Xu, Palaiahnakote Shivakumara, Tong Lu, Chew Lim Tan &amp; Michael Blumenstein</i>
PS3-22	Beyond Human Recognition: A CNN-Based Framework for Handwritten Character Recognition – <i>Li Chen, Song Wang, Wei Fan, Jun Sun &amp; Naoi Satoshi</i>
PS3-23	Character Recognition of Medieval English Manuscripts supported by a Word Frequency Table – <i>Kei Tanaka &amp; Kengo Terasawa</i>
PS3-24	Retrieval of Scene Image and Video Frames using Date Field Spotting – <i>Partha Pratim Roy, Ayan Das, Dipak Majhi &amp; Umapada Pal</i>
PS3-25	Object Verification in Two Different Views using Sparse Representation – <i>Shih-Chung Hsu &amp; Chung-Ling Huang</i>
PS3-26	Neural Network Based Over-Segmentation for Scene Text Recognition – <i>Xin He, Yichao Wu, Kai Chen, Fei Yin &amp; Cheng-Lin Liu</i>
PS3-27	Offline Handwritten Devanagari Word Recognition: Information Fusion at Feature and Classifier Levels – <i>Bikash Shaw, Ujjwal Bhattacharya &amp; Swapan Parui</i>
PS3-28	Non-Semantic Facial Parts for Face Verification – <i>Chong Cao &amp; Haizhou Ai</i>
PS3-29	Very Deep Convolutional Neural Network Based Image Classification Using Small Training Sample Size – <i>Shuying Liu &amp; Weihong Deng</i>
PS3-30	DASA: Domain Adaptation in Stacked Autoencoders using Systematic Dropout – <i>Abhijit Guha Roy &amp; Debdoot Sheet</i>
PS3-31	Locality-constrained Group Sparse Coding Regularized NMR for Robust Face Recognition – <i>Hengmin Zhang, Wei Luo, Jian Yang &amp; Lei Luo</i>
PS3-32	Detector Ensemble based on False Positive Mining for Pedestrian Detection – <i>Yuki Suzuki, Daisuke Deguchi, Yasutomo Kawanishi, Ichiro Ide &amp; Hiroshi Murase</i>
PS3-33	Image Set Representation and Classification with Covariate-relation Graph – <i>Zhuqiang Chen, Bo Jiang, Jin Tang &amp; Bin Luo</i>
PS3-34	Explicit Foreground and Background Modeling in The Classification of Text Blocks in Scene Images – <i>Bowornrat Sriman &amp; Lambert Schomaker</i>
PS3-35	Transfer Forest Based on Covariate Shift – <i>Hironobu Fujiyoshi, Takayoshi Yamashita, Yuji Yamauchi &amp; Masamitsu Tsuchiya</i>
PS3-36	Stacked Partial Least Squares Regression for Image Classification – <i>Ryoma Hasegawa &amp; Kazuhiro Hotta</i>

PS3-37	Sparse Autoencoder based Spatial Pyramid Facial Feature Learning – <i>Xiao Ma &amp; Jufu Feng</i>
PS3-38	Age-invariant Face Recognition using a Feature Progressing Model – <i>Junyong Si &amp; Weiping Li</i>
PS3-39	Haze Removal based on Sparse Representation Prior – <i>Jiafeng Li, Hong Zhang, Hao Chen, Yifan Yang &amp; Mingui Sun</i>
PS3-40	On Coupled Regularization for Non-Convex Variational Image Enhancement – <i>Freddie Astrom &amp; Christoph Schnoerr</i>
PS3-41	Feature Extraction with Convolutional Restricted Boltzmann Machine for Audio Classification – <i>Min Li, Zhenjiang Miao &amp; Cong Ma</i>
PS3-42	Blind Image Quality Assessment via A Two-Stage Non-Parametric Framework – <i>Redzuan Abdul Manap, Ling Shao &amp; Alejandro Frangi</i>
PS3-43	Efficient objectness via saliency seeds and contour segments – <i>Rigen Te &amp; Cheng Yan</i>
PS3-44	Noise-resistant local binary pattern based on random projection – <i>Shasha Li, Yukai Tu, Weihong Deng &amp; Jiwen Lu</i>

Session: OS9 – Oral Session 9: Features	
Chair: Kazuhiro Hotta	
Date/Time: Friday, 06 <sup>th</sup> November 2015, 16:30 – 17:30	
Venue: <i>Ballroom A</i>	
OS9-01	A Person Authentication System Using Second Minor Finger Knuckles for Door Handle – <i>Daichi Kusanagi, Shoichiro Aoyama, Koichi Ito &amp; Takafumi Aoki</i>
OS9-02	Iris Biometric: Is the Near-Infrared Spectrum always the Best? – <i>Mohammed Abdullah, Jonathon Chambers, Wai Woo &amp; Satnam Dlay</i>
OS9-03	Co-occurrence Context of the data-driven Quantized Local Ternary Patterns for Visual Recognition – <i>Xian-Hua Han, Yen-Wei Chen, Gang Xu</i>

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**November 4-6 (Wednesday-Friday), 2015**  
**Ballroom B**

**DS.01     Dai Fujita and Takashi Komuro**  
Saitama University, Japan

*Real-time 3D Hand Pointing Recognition using Appearance Difference  
between Two Camera Images*

**DS.02     Wei Liu, Wei Liu (Willie), Wei Fan, Jun Sun, Satoshi Naoi**  
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**DS.03     Fumitaka Kimura, Wataru Ohyama, Tetsushi Wakabayashi**  
Mie University, Japan

*Recognition of Arabic News Caption for Video Retrieval*

# Real-time 3D Hand Pointing Recognition using Appearance Difference between Two Camera Images

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**Abstract**—In this paper, we propose a method of 3D hand pointing recognition from two camera images in real time. The proposed method detects a pointing hand at a distance of a few meters and estimates its direction. It uses machine learning to robustly recognize a hand that is pointing at the cameras and improves its accuracy utilizing the difference of hand appearances between two camera images. To reduce the computational time, hand detection is performed only within the region of interest, which is determined by hand tracking. In the experiment, we confirmed that real-time 3D hand pointing recognition was realized.

## I. INTRODUCTION

User interface systems using hand gestures that are recognized from camera images are becoming popular. While hand gesture interfaces enables remote and intuitive operation without a controller, conventional hand gesture interfaces have a problem that only limited kinds of input operations are possible compared to other conventional input interfaces. In addition, users have to move their hand largely and the users often get tired during operation.

On the other hand, hand pointing interfaces allow users to perform various types of input operations by recognizing little finger movement in the air. Hand gesture control devices that recognize precise mid-air finger movement have been commercialized [1]. However, the operation space of the device is limited within a small space above the sensor.

To solve this problem, we have proposed a method of recognizing a pointing hand in a 3D space at a distance of a few meters [2]. It uses machine learning to robustly recognize a hand that is pointing at the cameras and improves its accuracy utilizing the difference of hand appearances between two camera images. In this paper, we reduce the computation time of our previous method to realize real-time recognition for the purpose of being used in practical applications. Our previous method always scans the entire input images to detect hands. We limit the search area within the region of interest (ROI) by assuming that there is at most one hand in a camera image, and achieve real-time 3D hand pointing recognition.

## II. 3D HAND POINTING RECOGNITION

In this section, we present an overview of our previous method described in [2]. It detects a pointing hand at a distance of a few meters from a stereo pair of images and estimates its direction. The method consists of two steps. First, classification scores for each quantized pointing direction in individual camera images are computed (Fig. 1). Second, a pair of the classification scores from two camera images are integrated (Fig. 2).

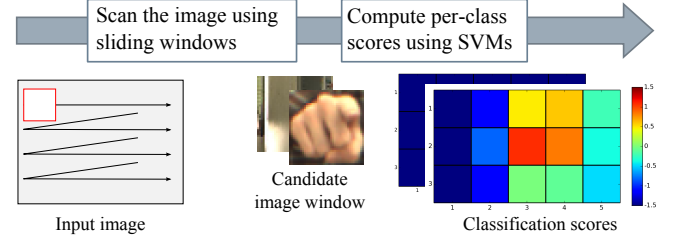


Fig. 1. Classification score computation

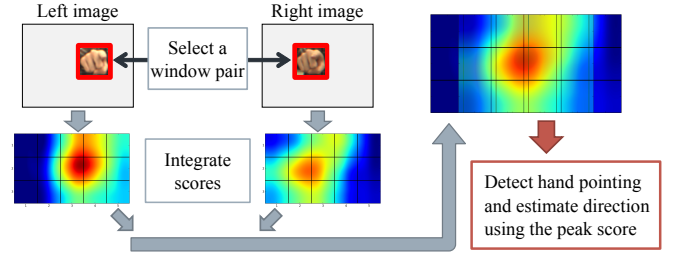


Fig. 2. Integration of two camera classification scores

### A. Computation of Classification Scores

The input stereo images are respectively scanned with sliding image windows having different sizes (candidate rectangle regions for detection). The classification scores are computed in each image window. As shown in Fig. 3, classes for hand pointing images are defined as  $w_c \times h_c$  quantized pointing direction bins in regular intervals, and the frontal direction is used as the origin. The classification scores of the window for all the hand pointing classes are computed using classifiers that classify image features into a corresponding hand pointing class and non-hand image class. Pre-trained linear support vector machines (SVMs) are used as the classifiers. A classification score is defined as signed distance to the discriminative hyperplane of a SVM. Histograms of Oriented Gradients (HOGs) are used as the image features.

### B. Integration of Classification Scores between Two Camera Images

To improve the accuracy of the above multiclass classification, two cameras with parallel optical axes and large baseline length are used, and classification scores from image windows of the two camera images are integrated. Since the appearance of a pointing hand highly varies depending on the viewpoints and the difference of the camera positions can reduce the effect

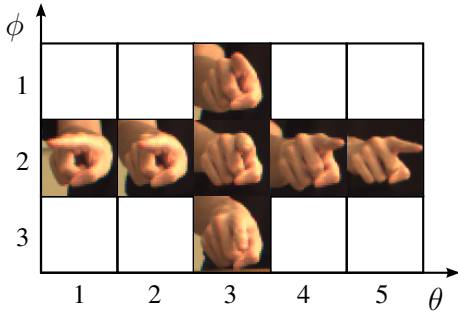


Fig. 3. Hand pointing classes for each direction for  $w_c = 5$ ,  $h_c = 3$ . Example images are shown for some classes

of complex background, integration of two camera information is more effective than just using doubled size of information.

To integrate the two camera information, a pair of windows are first selected for the left and right camera images based on the epipolar constraint by scanning the entire images.

Next, classification scores are integrated on each selected pair of windows by summing the scores of the windows with compensating yaw angle difference between the windows. To compensate the angle difference precisely, the resolution of the classification scores is increased by applying bicubic interpolation to the scores before integration.

As a result, the maximum integrated classification score  $S$  and the corresponding coordinate  $(i, j)$  are obtained. If  $S$  is equal to or greater than a certain threshold, a pointing hand is detected in the pair of the windows and its pointing direction  $(\theta, \phi)$  is estimated from  $(i, j)$ .

### III. SETTING ROI BY HAND TRACKING

Our previous method always scans the entire input images. It performs high-cost feature extraction and classification in the regions even where no hand exists and thus has a problem of high computational cost. To solve this problem, we limit the search range within the ROI which is determined by tracking a user's hand. We assume that there is at most one hand in a camera image and that the pointing hand in the current frame exists near the position in the previous frame.

The flowchart of setting the ROI is shown in Fig. 4. First, the detection result with the highest  $S$  in the previous frame is selected. Next, the ROI in the current frame is set to a 3D cubic space with a side length of  $d$  cm around the position of the selected detection ( $d$  is a parameter). The ROI is not set when no hand is detected in the previous frame.

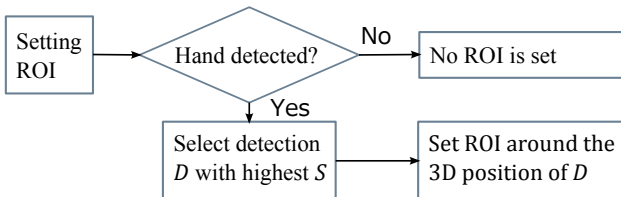


Fig. 4. Flowchart of setting ROI

## IV. EXPERIMENT

We conducted an experiment to measure mean execution time per frame of the proposed method with hand tracking and without hand tracking (or in the case of no detection). The execution time was measured only for hand detection and pointing direction estimation from a pair of test stereo images, and time for file I/O, for example, was not included in the execution time. Stereo images in  $640 \times 480$  pixels containing at most one pointing hand at a distance of 2 m were used as the test images. The patch size of HOG features was  $40 \times 40$  pixels and its dimension was 576 ( $2 \times 2$  blocks of  $8 \times 8$  pixel cells and 9 bins). The number of classes was set to  $w_c = 6$ ,  $h_c = 4$ . The side length  $d$  of the ROI was 50 cm. The computation was executed on a desktop PC with Intel Core-i7 4770 CPU. We implemented the proposed method using multiple threads.

An example of the recognition result is shown in Fig. 5 and the mean execution time is shown in Table I. It is confirmed that the method was executed in real time with hand tracking from Table I. The execution time becomes longer when no hand is detected since the ROI is set only when a hand is detected. The mean execution time with hand tracking including no detection case was 53 ms.

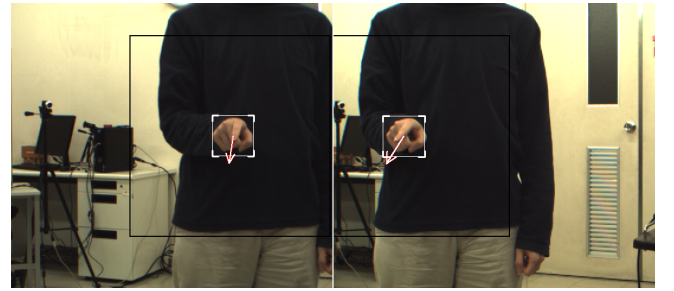


Fig. 5. Recognition result example. A black box represents the current ROI. A white rectangle represents the position of a detected pointing hand. Arrows represent the estimated pointing directions.

TABLE I. MEAN EXECUTION TIME PER FRAME

Method	Mean execution time
Without hand tracking (or no detection case)	199 ms
With hand tracking	27 ms

## V. CONCLUSION

We improved the method of 3D hand pointing recognition using two cameras to reduce its execution time and achieved real-time recognition. Future works include improving recognition accuracy, realizing wide operation space and creating an application using hand pointing.

## REFERENCES

- [1] Leap Motion, <https://www.leapmotion.com/>.
- [2] D. Fujita and T. Komuro, "Three-dimensional hand pointing recognition using two cameras by interpolation and integration of classification scores," in *ECCV Workshops*, 2014.

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### IMPORTANT DATES

▪ 2nd Call for Papers	Aug. 07, 2015
▪ Final Call for Papers	Dec. 04, 2015
▪ Submission paper opens	Jan. 04, 2016
▪ Deadline for paper submission	Apr. 04, 2016
▪ Deadline for workshop & contest	Mar. 01, 2016
▪ Acceptance of workshop & contest	Mar. 07, 2016
▪ Deadline for tutorial	Jul. 01, 2016
▪ Acceptance of tutorial	Jul. 07, 2016
▪ Notification of paper acceptance. Early bird registration opens.	Jul. 11, 2016
▪ Publication of the list of accepted papers	Jul. 18, 2016
▪ Deadline for submission of Camera-Ready papers. End of early bird registration.	Sep. 05, 2016
▪ Deadline for contest proposal	Sep. 05, 2016
▪ Last day for guaranteed hotel reservation	Oct. 04, 2016
▪ Deadline for late registration Fees	Nov. 20, 2016
▪ Conference Dates	Dec. 04 – 08, 2016



# KUALA LUMPUR GUIDE

## YOUR FREE KUALA LUMPUR GUIDE FROM THE ASIA TRAVEL SPECIALISTS

The capital of an Islamic nation that has enthusiastically embraced the 21st century, Kuala Lumpur strives to emulate and compete with some of Asia's celebrated mega-buck cities. Home to over 1.4 million inhabitants, KL plays host to the world's tallest twin buildings (Petronas Twin Towers), colonial edifices such as Dataran Merdeka, and plenty of inner-city greenery.

Although you'll frequently hear the adhan (call to prayer) coming from mosques, it's easy to forget KL's Islamic roots once you hit the city's nitty-gritty sights. It is these spots - thriving hawker centres, pre-war shop-houses and a colourful jumble of street markets - that define KL and draw in countless visitors every year. From Petaling Street's faux-label laden avenue and Little India's colourful, culture-rich wares to the breathtaking view from the Twin Towers' Skybridge and a variety of temples, KL has something for everyone.



### WEATHER

MORE

The city's average temperatures range between 29°C - 35°C during the day and 26°C - 29°C at night, though it may get colder after periods of heavy rainfall. As it is shielded by mountainous terrains, KL is relatively cooler than most places in Malaysia while being one of the least affected by monsoon winds coming from the east or west. Occasional rainfall results in humid yet cooler temperatures than average and the city's temperate weather makes travelling here all year round a pleasure.

<http://www.kuala-lumpur.ws/practicalinfo/weather.htm>

### AIRPORT TRANSFERS

MORE

All transport to downtown KL is found on the third floor of KLIA. The fastest way is the KLIA Ekspres - a 28-minute shuttle service that travels to KL Sentral and costs RM35. Additionally, you can hire either an airport limo - coupons are available from the Airport Limo counter or book an airport transfer service in advance at <http://www.visit-malaysia.com/kl-transfer.htm>; rates vary according to destination zones. Easier on the pocket but just as fast is the Airport Limo registered taxi service - they also utilise a coupon system. Alternatively, running set routes to KL Sentral are the hourly KLIA coach buses - a trip downtown will cost you RM10. Another alternative is to hire a car - you can book a vehicle ahead of time at <http://www.kuala-lumpur.ws/hawk/> <http://www.kuala-lumpur.ws/airport/>

### SIM CARDS AND DIALING PREFIXES



Malaysia's three main cell phone service providers are Celcom, Digi and Maxis. You can obtain prepaid SIM cards almost anywhere - especially inside large-scale shopping malls. Digi and Maxis are the most popular services, although Celcom has the most widespread coverage in Sabah and Sarawak. Each state has its own area code; to make a call to a landline in KL, dial 03 followed by the eight-digit number. Calls to mobile phones require a three-digit prefix, (Digi = 016, Maxis = 012 and Celcom = 019) followed by the seven digit subscriber number.

### GETTING AROUND

MORE

KL has three train lines - the KL Monorail loops through the Golden Triangle, the KTM Komuter makes trips to the outer northern, southern & western suburbs and the Putra Light Rail Transit line goes from Kelana Jaya to Gombak. Fares start from RM1.20 but for the sake of convenience, purchase an RM10 Touch 'n Go card which can be used on all lines. Low frequencies and the lack of signage make the city's public buses a poor option for the casual visitor; a convenient alternative is to use the KL Hop-On, Hop-Off service. These double-decker buses stop at over 42 sightseeing spots - an all-day pass can be purchased for RM38 at [Hop-On Hop-Off City Tour Bus](http://www.kuala-lumpur.ws/gettingaround.htm). Consider using KL's ubiquitous taxi service - but beware that though they're required to use a meter there are many errant cabbies that do not adhere to this rule. <http://www.kuala-lumpur.ws/gettingaround.htm>

### TIME ZONE

GMT+8 (the same as China, Hong Kong and Singapore).

### ELECTRICITY

Main voltage in Malaysia is 220 volts. Connect to the reliable electricity supply (220V-240V, 50 cycles) with a UK-type three-square-pin or two-parallel-flat-pin (British BS-1363) plugs.

### IMPORTANT PHONE NUMBERS

1 Stop Crisis Centre	+603 2615 3333
Tourist Police	+603 2164 0522
Civil Defence	991
Customs	+603 6201 6088
Directory Enquiries	103
Emergency Call From Mobile Phone	112
Fire	994
Foreign Affairs	+603 8887 4000
Immigration	+603 2093 9181
Flight Info KLIA	+603 8776 2000
MAS Airline	1 300 88 3000
AirAsia Airline	+603 7651 2222



# KUALA LUMPUR AREA GUIDES

“ Covering an area of 243sqkm, Kuala Lumpur has an estimated population of 7.2 million. Home to the tallest twin skyscrapers in Southeast Asia as well as plenty of inner-city greenery and embellished temples, KL is following in the footsteps of 'big city' neighbours like Hong Kong and slowly becoming a celebrated tourist destination. If you're a first-time visitor it can be hard to locate KL's best offerings, so be sure to get our easy-to-print Area Guides! ”



## 1 BUKIT BINTANG

Bukit Bintang is one of Kuala Lumpur's trendiest shopping and entertainment districts. Extremely popular with locals and tourists alike, the area plays host to everything from shopping centres to nightclubs. Combining historical charm with urban chic, the area is one-third of the Golden Triangle district which encompasses Bukit Bintang's retail offerings such as Pavilion and Lot 10, the office towers of Jalan Raja Chulan, the five-star hotel strip of Jalan Sultan Ismail, the Jalan P. Ramlee party street and KLCC.

[Read More...](#)


## 2 KLCC

There is only one way to describe KLCC: the heart of Kuala Lumpur. As an entertainment, commercial and business focal point, KLCC is home to some of the most popular landmarks in Malaysia such as the Petronas Twin Towers, the Dewan Filharmonik Orkestra concert hall, the KLCC Park and Suria KLCC, making it a popular tourist destination. With a host of options to choose from - dining, arts, culture, recreation, sightseeing, shopping and entertainment - you won't be stuck for ideas on what to do around here.

[Read More...](#)


## 3 CHINATOWN

Just a short distance away from the heart of Kuala Lumpur is a rather unassuming area that never sleeps, and is far more colourful and bustling than its bigger and more glamorous neighbours. Chinatown, based in Petaling Street, is also known as 'Chee Cheong Kai' (Starch Factory Street), a reference to its roots as a tapioca-producing district. Well-regarded as one of the busiest street markets in Kuala Lumpur, Chinatown is teeming with Oriental culture, heritage and history, making it one of the most popular tourist spots in Malaysia.

[Read More...](#)


## 4 KL SENTRAL

Situated just 2 km away from the city centre, KL Sentral houses an impressive array of luxury hotels, local and international eateries with easy access to Malaysia's largest rail transport hub. KL Sentral is also within walking distance from the laidback residential neighbourhood of Brickfields where numerous quaint Buddhist temples and colourful shops with a strong South Indian presence can be found. Easily accessible via LRT, KTM, and Monorail, Kuala Lumpur's massive shopping malls are also situated just several train stops away from KL Sentral Station.

[Read More...](#)


## 5 BANGSAR & MID VALLEY

Bangsar is one of Kuala Lumpur's most popular night time entertainment districts. The streets of Bangsar, mainly in Telawi and Maarof, are sprinkled with nightclubs, pubs and bistros, making it one big party area. Bangsar is also a large residential area (mainly for the affluent) but residents have grown accustomed to the hive of activity that Bangsar generates during the night. Bangsar Shopping Centre and Bangsar Village are two prominent shopping malls in Bangsar but most also flock to Mid Valley Mall, which is just a stone's throw away along the Federal Highway.

[Read More...](#)


## 6 PETALING JAYA

Originating as a small, humble town in the 1950s measured at only 2.12sqkm, Petaling Jaya has developed into one of the most important cities in Malaysia. Also known as the twin sister of Malaysia's capital, Kuala Lumpur, Petaling Jaya is the country's first planned town. Consisting of numerous commercial, residential and business districts, the satellite city is now a metropolis of 500,000 inhabitants. Due to its close proximity to Kuala Lumpur, Petaling Jaya remains a popular choice amongst city dwellers and visitors alike.

[Read More...](#)

## BEST LUXURY HOTELS



### 1 GRAND HYATT KUALA LUMPUR, KLCC ★★★★★

If you are an avid traveller who appreciates the finer things in life, look no further than Grand Hyatt Kuala Lumpur as your choice of accommodation while in the city. Occupying a prime spot in the Golden Triangle, it is within walking distance to well-known city landmarks: Petronas Twin Towers, Kuala Lumpur Convention Centre and KLCC Park are all close by while the Pavilion KL shopping mall is connected via a covered sky-bridge just outside the five-star hotel.

[Book Now!](#)



### 2 SHANGRI-LA HOTEL KUALA LUMPUR, KLCC ★★★★★

Shangri-La Hotel Kuala Lumpur is one of the city centre's most jaw-droppingly opulent establishments. The world-class venture is an award-winning property with a beautifully landscaped outdoor swimming pool, tennis courts, a fitness centre and 662 rooms with flat-screen TVs, in-room internet and personalised toiletries. The five-star establishment also boasts nine bars and restaurants including the award-winning Zipangu, Lemon Café and Lafite.

[Book Now!](#)



### 3 THE WESTIN KUALA LUMPUR, BUKIT BINTANG ★★★★★

The Westin Kuala Lumpur is a contemporary five-star hotel located in Kuala Lumpur's upscale shopping district, Jalan Bukit Bintang. All 443 guestrooms feature its signature Heavenly Bed®, in-room internet access, flat-screen TVs and boast views of either the Petronas Twin Towers or the expansive Kuala Lumpur skyline. The hotel's range of facilities include a state-of-the-art fitness centre, a beautifully landscaped swimming pool, and six restaurants and bars.

[Book Now!](#)

## BEST BUSINESS HOTELS



### 1 GTOWER HOTEL KUALA LUMPUR, KLCC ★★★★★

Offering 180 stylish rooms furnished with comfy beds, work desks, iPod docking stations, in-room internet access, a 37-inch flat-screen TV in the room and a 19-inch flat screen in the bathroom, GTower Hotel snags the top spot as the city centre's best business hotel. The five-star venture is located adjacent to the Ampang Park LRT station, making it easily accessible to popular tourist destinations such as the Petronas Twin Towers, Suria KLCC and the KL Convention Centre.

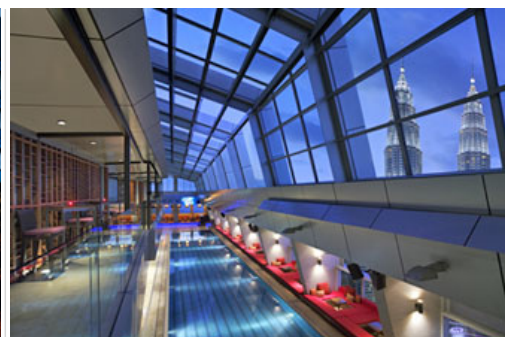
[Book Now!](#)



### 2 CONCORDE HOTEL KUALA LUMPUR, KLCC ★★★★★

A ten-minute drive from the Putra World Trade Centre, the well-run Concorde Hotel KL is a four-star property located along the same strip as KL's Hard Rock Café, Carnegie's (a popular rock n' roll joint) and the New Zealand High Commission. Offering 542 rooms, a pool, business centre and six restaurants and bars, the hotel is a popular establishment that draws in a steady clientele due to its close proximity to the city centre's nightlife hotspots such as Bukit Bintang and Asian Heritage Row.

[Book Now!](#)



### 3 TRADERS HOTEL KUALA LUMPUR, KLCC ★★★★★

Located beside the expansive KLCC Park, Traders Hotel Kuala Lumpur is a contemporary four-star venture with 571 guestrooms with hotel facilities that include four restaurants and bars, a gym, rooftop pool and an on-site spa. The Suria KLCC shopping mall and Malaysian Philharmonic Orchestra concert hall are situated directly opposite the hotel. Numerous public transportation lines including the KLCC LRT station are also available within walking distances from Traders Hotel KL.

[Book Now!](#)



## BEST SHOPPING MALL HOTELS



### 1 CITITEL MIDVALLEY, MID VALLEY ★★★

Located in the Klang Valley Cititel Mid Valley is this 646-room venture that's particularly well located if you're looking to experience the city's shopping. Flanked by the Mid Valley Megamall and The Gardens shopping complexes, this air con lodging units feature broadband internet access, and a mini bar. The property was the winner of the 2008/2009 Malaysian Tourism Premier Award for the 'Best in Hotel Services' in the three-star category. Facilities include a health spa and business centre.

[Book Now!](#)



### 2 FAHRENHEIT SUITES, BUKIT BINTANG ★★★★

Topping Fahrenheit 88 (the newest addition to Kuala Lumpur's mallscape) Fahrenheit Suites is a four-star establishment that offers 85 funky, air conditioned one-, two- and three-bedroom lodging units with flat-screen TVs, DVD players and attached bathrooms. Close by the exclusive Starhill Gallery, Sephora and Lot 10 shopping centres, hotel facilities include a well equipped fitness centre and a swimming pool; nearby public transportation access includes the Bukit Bintang and Imbi Monorail stations.

[Book Now!](#)



### 3 GRAND MILLENNIUM KUALA LUMPUR, BUKIT BINTANG ★★★★★

Glitzy and glamorous, Grand Millennium Kuala Lumpur is the perfect stay for those who are looking for convenience in terms of location and accommodation. Boasting 468 guestrooms and suites, the hotel stands in a prime location of Bukit Bintang C its neighbours are the shopping malls Pavilion, Starhill and Fahrenheit 88, and it is within walking distance of the Bukit Bintang Monorail station so getting to other attractions within the city is a breeze.

[Book Now!](#)

## BEST BUDGET HOTELS



### 1 HOTEL SENTRAL KUALA LUMPUR, KL SENTRAL ★★★

Hotel Sentral Kuala Lumpur is a three-star venture located at the edge of the city centre. This well-run establishment offers 192 carpeted, air-conditioned rooms with flat-screen TVs and free in-room internet access. The newly-opened property is flanked by one of the city centre's main transportation hubs - KL Sentral - and rates are easy on the purse strings. The retro charming establishment is advantageously located close to the city's new Little India district and hotel facilities include function rooms, two restaurants and bars.

[Book Now!](#)



### 2 CUBE HOTEL BUKIT BINTANG ★★

A wallet-friendly venture located along Jalan Pudu, Cube hotel is a two-star property close to the Bukit Bintang area. The hotel has compact and funky air con rooms with Spartan furnishings, flat-screen TVs and attached bathrooms. Nearby the hotel is KL's main bus terminus, Puduraya, making cheap public transportation readily available. A favourite among the savvy backpacker crowd, the hotel is the perfect place to stay especially if you're looking to sample the city centre's variety of retail therapy offerings.

[Book Now!](#)



### 3 HOTEL CAPITOL KUALA LUMPUR, BUKIT BINTANG ★★★

On the face of it, Capitol Hotel Kuala Lumpur might not have much to offer to its guests, but what it lacks in hotel amenities, it makes up for with great value-for-money accommodation. Located along Jalan Bulan off Jalan Bukit Bintang, the hotel is slightly secluded but still within the exciting Bukit Bintang area, being across the street from Plaza Low Yat and Sungei Wang Plaza, two of the oldest malls in the shopping district. There are two on-site restaurants, Be Bes Kitchen & Bar and Cafe Rasa.

[Book Now!](#)

# WHAT TO SEE IN KUALA LUMPUR

“ Malaysia may seem like a small country to many people, but more often than not most visitors find that they need help exploring this multicultural haven. While Kuala Lumpur has fully embraced the 21st century, there's so much of ethnic interest to entice visitors. From cultural temples and yawning caverns to world-famous high rises and bustling street markets, Kuala Lumpur city centre is home to a vast array of sightseeing locations. ”

## 1 PETRONAS TWIN TOWER

Anchoring the sprawling Kuala Lumpur City Centre, are the iconic Petronas Twin Towers. Hailed as the Twin Jewels of Kuala Lumpur, a visit to KL isn't complete unless you've visited these doppelgangers. The 88-storey chrome and steel towers are the headquarters of Malaysia's oil and gas company - Petronas. The Dewan Filharmonik Petronas concert hall - Southeast Asia's leading venue for classical music performances - is situated between the two towers.

[Read more...](#) **Open:** 10.00-22:00 **Location:** between Jalan Ampang and Jalan Raja Chulan **How to get there:** Taxi, KLCC LRT Station



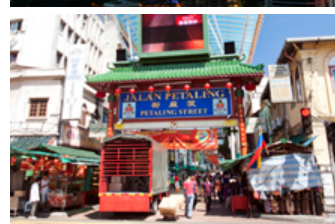
## 2 MENARA KL TOWER

Standing atop the Bukit Nanas Forest Reserve, the 421 metre-high KL Tower is the world's sixth tallest structure. Officially known as Menara KL, it has been outshone by the Petronas Twin Towers but remains an important architectural marker and offers spectacular views of the city. The viewing deck is at least 100 metres higher than the Petronas Tower's Skybridge. [Read more...](#) **Open:** 09:00-22:00 **Location:** No. 2, Jalan Punchak Off Jalan P. Ramlee **How to get there:** taxi



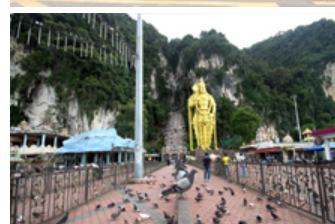
## 3 CHINATOWN

The colourful Chinatown is a well-known bargain hunter's paradise that seemingly never sleeps. Deeply immersed in Oriental culture, heritage and history, it is undoubtedly one of the most popular tourist spots in Malaysia, and holds its own against its more glamorous neighbours, KLCC & Bukit Bintang. Representing Malaysia's multihued multicultural background perfectly, you can find all sorts of items, from Chinese herbs to imitation goods in this area. [Read more...](#) **How to get there:** LRT (Pasar Seni or Masjid Jamek station), KTM Komuter (Kuala Lumpur station)



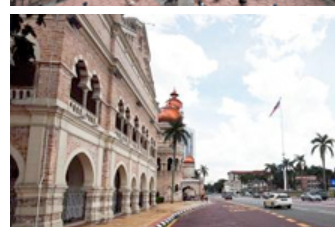
## 4 BATU CAVES

11 km north of KL, Batu Caves is a 400-year old limestone hill (with a 100-year old temple incorporated within it), best known as the focal point of the annual Hindu festival of Thaipusam. The celebration, held between Jan & Feb attracts thousands of visitors who come to see the colourful spectacle of devotees who pay homage by carrying ornately-decorated 'kavadis' (frameworks) combined with various metal hooks and skewers which are used to pierce the skin, cheeks and tongue. [Read more...](#) **Open:** 06:00 - 21:00 **Location:** Selangor **How to get there:** Take Cityliner bus No 69 at Jalan Pudu to get to Batu Caves



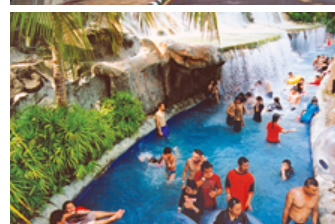
## 5 SULTAN ABDUL SAMAD BUILDING

Among Kuala Lumpur's earliest Moorish-style buildings, the Sultan Abdul Samad Building is a distinguished city landmark that originally served as the secretariat for the colonial British administration. Today it is home to the offices of the Ministry of Information, Communications and Culture of Malaysia. Built in 1897 and designed by AC Norman, it is set to the east of Merdeka Square (Dataran Merdeka) and is frequently the backdrop for Malaysia's annual Independence Day parades. [Read more...](#) **Location:** Jalan Tun Perak **How to get there:** 10 minutes walk from the LRT Masjid Jamek station



## 6 SUNWAY LAGOON THEME PARK

Water slides that whirl and twirl, a manmade 'river' ride, surf beach, wave pool and 360° revolving pirate ship... the list of fun attractions at the 323,749sqm Sunway Lagoon Theme Park is undeniably extensive. Located in Petaling Jaya, the park encompasses a total of five different zones - the water park, Scream Park, Amusement Park, Extreme Park and Wildlife Park. [Read more...](#) **Open:** 11:00 - 18:00 Monday & Wednesday - Friday; 10:00 18:00 Saturday & Sunday **Location:** Petaling Jaya **How to get there:** Taxi



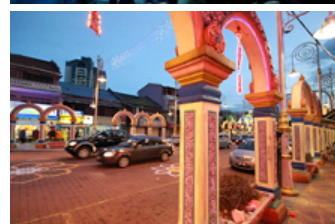
## 7 AQUARIA KLCC

On the concourse level of the KL Convention Centre, the 464,515sqm Aquaria KLCC is home to over 150 species of marine life. Some people write it off as a tourist trap, but they're sorely missing out - beyond the gallons of water filled with necklaces of kelp, coral and sea creatures, is one of KL's foremost sightseeing attractions with real depth and complexity. [Read more...](#) **Open:** 11:00 - 20:00 **Location:** Kuala Lumpur Convention Centre Complex **How to get there:** Taxi, KLCC LRT Station



## 8 LITTLE INDIA BRICKFIELDS

One of KL's most popular tourist hotspots, Brickfields - the site of the recently relocated Little India - is a seemingly different world. Originally a simple residential neighbourhood situated just outside the city centre, the wide thoroughfare now plays host to a colourful collection of Indian stores (retailing traditional Indian goods including saris, flower garlands and Bollywood music) as well as a smorgasbord of banana leaf restaurants run by Malaysia's Indian community. [Read more...](#)





# WHAT TO DO IN KUALA LUMPUR

“ Home to an alluring blend of seaside shanties, polished high rises as well as plenty of outskirts attractions, Kuala Lumpur has steadily been gaining a reputation as one of Southeast Asia's most sought-after destinations. We've come up with a list of tours that make KL so indelibly exciting – from excursions to attractions like the Kuala Gandah Elephant Sanctuary to tours of the city's best-known tourist sites.. ”

## 1 HALF-DAY BATU CAVES TOUR

**BATU CAVE - TOUR DURATION: 3 HOURS**

The Half-Day Batu Caves Tour will take you on a trip to see some of Kuala Lumpur's best-known attractions. First catch a glimpse of traditional Malay houses, as well as watch the production of fine silk Batik garments at the Malaysian Batik Cottage. The next stopover on the itinerary is an authentic rubber plantation before concluding with a visit to the well-recognized Batu Caves. [Book now](#), call **+60 (3) 2302 7556**



## 2 KUALA LUMPUR HALF-DAY CITY TOUR

**KUALA LUMPUR CITY - TOUR DURATION: 3 HOURS**

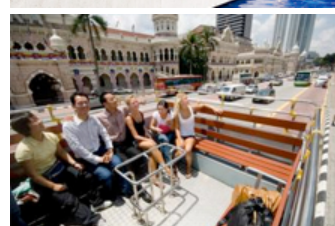
The KL Half-Day City tour takes you on a journey to see several iconic inner-city attractions. First up is the palm-grove lined Masjid Jamek – the oldest mosque in KL followed by the Tugu Negara – also known as the War Memorial to commemorate those who perished during Malaysia's fight for independence. [Book now](#), call **+60 (3) 2302 7556**



## 3 KL HOP ON HOP OFF TICKET

**KUALA LUMPUR CITY - TOUR DURATION: N/A**

This tourist-friendly bus is the best way to visit KL's most popular sightseeing attractions. The bus covers a circuit that takes you to over 40 KL tourist sites and you can hop on and off this double-decker tourist bus as often as you like. It's the best way to explore the city centre especially if you would like to do so in air-conditioned comfort. [Book now](#), call **+60 (3) 2302 7556**



## 4 KUALA LUMPUR FULL DAY TOUR

**KUALA LUMPUR - TOUR DURATION: 7 HOURS**

Kuala Lumpur has managed to retain her charm, with a skyline that blends the Old World with the New. See the contrast of the distinctive Indo-Moorish architecture and the ultra modern edifices, Petronas Twin Towers - tallest in the world. Beside this, you will visit to Malaysia King's Palace, National Monument and a lot more. [Book now](#), call **+60 (3) 2302 7556**



## 5 KL TOWER NIGHT TOUR

**INDEPENDENCE SQUARE, KL TOWER, KLCC, CHINATOWN - TOUR DURATION: 3 - 3.5 HOURS**

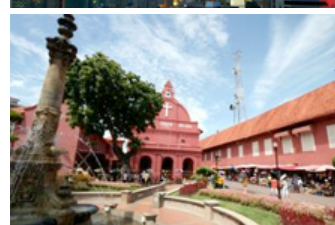
This Tour offer you an insight into the old & new, starting see Kuala Lumpur alive after sunset, visit the famous night bazaar of china town for bargains and sights. Next to the Kuala Lumpur Tower, one of the tallest in the world - 421m, here you can observe the awesome skyline of the KL city at night. [Book now](#), call **+60 (3) 2302 7556**



## 6 FULL DAY MALACCA EXCURSION

**MALACCA - TOUR DURATION: 7 HOURS**

The Dutch Heritage Trails Tour brings you on a historic journey of Malacca's unique heritage, legacy and culture. Colonised by various powers over a period of four centuries, Malacca's landmarks have imprints from the Portuguese, British and Dutch; a trip down its streets promises to be a culturally enriching experience. [Book now](#), call **+60 (3) 2302 7556**



## 7 CHINATOWN AND CULTURAL NIGHT TOUR

**CHINATOWN - TOUR DURATION: 4 HOURS**

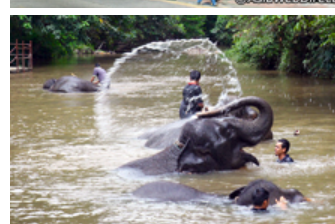
In a nutshell the Cultural Night Tour is a good way to experience typical Malaysian ethnic traditions in a single evening. This exciting tour first takes you on a visit to the Chinese culturally enriching Petaling Street, before heading out to an authentic and elaborate Indian temple. Later on enjoy a traditional Malay cultural performance while you savour a characteristically-Malaysian meal. [Book now](#), call **+60 (3) 2302 7556**



## 8 ELEPHANT SANCTUARY TOUR

**PAHANG, KUALA GANDAH - TOUR DURATION: 8 HOURS**

This tour takes you through the scenic Malaysian countryside to the Kuala Gandah Elephant Orphanage Sanctuary where you can watch and interact with rehabilitated elephants. The park's main purpose is to capture and relocate these elephants at the centre, watch an informative video, then observe handlers as they feed the big guys fruits; later you can see the gentle giants as they bathe and also swim with these majestic yet gentle creature. [Book now](#), call **+60 (3) 2302 7556**



# WHAT TO EAT

“ Brimming with different races and cultures, Malaysia has a smorgasbord of culinary offerings. Hawker centres, kopitiam (coffee shops) and mamak (Indian Muslim) restaurants mushroom all over the city, offering some of the best fare. Meanwhile KL's cosmopolitan lifestyle means that there are plenty of international fine-dining eateries where you can still sample ethnic favourites. Here are a number of must-try dishes. ”

## 1 NASI LEMAK

A Malay dish so popular, even the Chinese and Indians serve their own similar version. At its very basic, Nasi Lemak is a plate of white rice cooked in coconut milk. Accompanying it on the plate is 'sambal', a chilli paste mixed with salted anchovies or 'ikan bilis'. Then there is an egg served, either boiled or fried, with cucumber slices and peanuts. Finally, you may add beef or chicken 'rendang', essentially pieces of meat cooked in rich coconut milk and curry!



## 2 BAH KUT TEH

A truly Malaysian-Chinese dish, Bah Kut Teh originated a few decades ago from Klang in Selangor state. It was prepared by a stall owner under a bridge for coolies in the area who smoked opium. As their taste buds were affected by the drug, they lost their sense of taste. So what the stall owner did was boil pork ribs and intestines in strong Chinese herbs, creating a stew ripe with aroma. From there, Bah Kut Teh caught on and became a nationwide phenomenon.



## 3 ROTI CANAI

A breakfast favourite, Roti Canai is the ultimate in simplicity and taste. It is basically a kind of pancake made by combining wheat flour, oil, ghee, or butter, rolled up into a ball and then swung into the air until it takes a flat, oval shape. It is then fried on a hot iron plate and served with dhal, chicken or fish curry. There are many variations on the same theme that include putting in eggs to make it 'Roti Telur', sardines to make it 'Roti Sardin', bananas to make it 'Roti Pisang' and so on.



## 4 SATAY

Satay is the Malaysian version of a kebab, only sweeter and somewhat smaller. Pieces of softened, marinated meat are skewered on a thin stick made of coconut frond. It is then barbecued over a tray of hot steaming charcoals until brown and tenderly moist. A wide range of meat can be used from rabbit to venison but beef and chicken is the most common. Accompanying it is thick peanut gravy and 'ketupat', rice cooked in coconut milk, cut into cubes and wrapped into an attractive weave of coconut leaves.



## 5 KAI FAN (CHICKEN RICE)

Although there are many variations of the meat from steamed white chicken and barbecued pork to roasted duck and curried boar, roasted chicken remains the most popular. First, the chicken is meticulously marinated (whole) and then roasted in an oven until crispy brown. The rice, on the other hand, is cooked with the leftover stock in a pot, sometimes with a touch of butter. Finally, cucumber slices are placed together with the chicken and rice to make Kai Fan.



## 6 NYONYA FOOD

The Nyonya food that you can find in Kuala Lumpur is heavily influenced by Malacca's rich Peranakan culture. The Nyonya style of cooking is the result of a fusion between Chinese and Malay ingredients and recipes, the result of Chinese traders settling in Malacca and adopting the Malay way of living in the 16th century. Some of the most common ingredients in Nyonya cuisine are coconut milk, lemon grass, turmeric, screw pine leaves, chillies and sambal.



## 7 CHAR KUAY TEOW

A favourite hawker dish in Malaysia, fried kuay teow - flat rice noodles stir-fried with prawns, cockles, eggs, bean sprouts and chives in chilli paste, lard and soy sauce - is one of the most popular regional dishes in the country. The noodles are best eaten piping hot after they've just been stir fried in a huge wok. Highly sought after by local ardent foodies, this dish is sometimes garnished with strips of Chinese sausage or crab meat.



## 8 ROTI JALA

Roti Jala is a popular tea-time entrée in the Malay community. It literally translates as 'net bread' referring to its thread-like pattern that resembles a fishing net. Essentially a type of crepe, Roti Jala occasionally replaces rice in the Malay home for meals. The batter is made from a mixture of plain flour and eggs, with a pinch of turmeric powder and butter that gives it a distinctive yellow colour. A special cup or mould with small holes is then used to make the lacy crepe which is cooked over a hot griddle.





# BEST RESTAURANTS IN KUALA LUMPUR

“ Malaysia's passion for food is well-known - food is not just a necessity here, it's an obsession. The whole country is filled with good places to eat, from roadside stalls to fine-dining restaurants and from local fare to international offerings, the choices are endless. Below you will find a list of eateries - ranging from upmarket fine dining restaurants to chic bistros with affordable fare where you'll be spoilt for choice. ”

## 1 MARINI'S ON 57

An exclusive Italian ristorante on the 57th floor of Petronas Tower 3 (adjacent to Suria KLCC), Marini's on 57 is a fine dining Kuala Lumpur restaurant offering gorgeous, up-close views of the iconic PETRONAS Twin Towers through its floor-to-ceiling windows and glass roof. Comprising a restaurant, bar and lounge, its décor is elegant and restrained, and the kitchen offers a menu of haute Italian cuisine, with standout dishes such as spaghetti with botargo (mullet roe) and almonds. [Read more...](#) **Open:** 17:00 - late Bar; 19:00 - late Restaurant; 15:00 - late Lounge **Tel:** +603 2161 2880 or +603 2161 4880 **Address:** Level 57, Menara 3 Petronas, Persiaran KLCC



## 2 TROIKA SKY DINING

Offering two fine dining restaurants, the impressive Troika Sky Dining unquestionably stands out from the pack. Set on the 23rd floor of Tower B of The Troika along Persiaran KLCC, it goes without saying that the cloud-skimming views here are something else entirely. However, the food is what helped put it on our list of Top 10 Kuala Lumpur Restaurants 2014 - Cantaloupe serves award-winning French, Italian, Greek and Spanish food, while Strato has an assertive and adventurous menu of high end pizzas and pastas. [Read more...](#) **Open:** 12:00 - 15:00 and 18:00 - 23:00 (Strato); 16:00 - 01:00 (Claret); 18:30 - 22:30 (Cantaloupe Dining Room) **Tel:** +603 2162 0886 **Address:** Level 23A, Tower B, The Troika, 19 Persiaran KLCC



## 3 THIRTY8 KL

An unbeatable dining room, wine bar and lounge on the 38th floor of Kuala Lumpur's Grand Hyatt Hotel, Thirty8 KL is a market focused temptation to local and visiting gourmet enthusiasts. Offering a diverse menu of Chinese and Thai seafood, Japanese sushi and sashimi and steaks, the elegant eatery is clearly one of the city's best restaurants. Everything on the menu is excellent but we are fans of the flawless symphony of fresh sushi and sashimi. Upscale yet inviting, polished yet unpretentious, large wraparound windows offer spectacular views of the prominent Petronas Twin Towers. [Read more...](#) **Open:** 12:00 - 15:00 & 18:00 - 23:00 **Tel:** +603 2182 1234 **Address:** Level 38, Grand Hyatt Kuala Lumpur



## 4 ENAK RESTAURANT KL

Specialising in spicy Malay food, Enak Restaurant KL is one of the city's most famous high-end Malay restaurants. Sitting unpretentiously on the lower ground floor of Starhill Gallery mall, the restaurant's décor is elaborate with Balinese-style tables, candlelight and polished antique brassware. Relying heavily on age-old family recipes, the food at this halal (pork-free) restaurant has such a rich, home-made flavour to it and while the spice levels are just perfect for locals, diners can also request that the kitchen tone down the chilli factor to appease mellower taste buds. [Read more...](#) **Open:** 12:00 - 01:00 **Tel:** +603 2141 8973 **Address:** LG2, Feast Floor, Starhill Gallery



## 5 PREGO KL

Set within The Westin Kuala Lumpur Hotel, Prego KL is an uptown homage to classic Italian cuisine. The two-storey restaurant's menu provides multiple opportunities for a memorable meal, best experienced when shared between two or more. Décor-wise the dining space features a lot of old world charm, while the kitchen offers sophisticated takes on Italian comfort food favourites. For example, risotto with a velvety sauce of wild mushrooms and parmesan cheese, and delicate ravioli filled with tender chicken chunks, sitting on a bed of rich mushroom cream sauce. [Read more...](#) **Open:** 12:00 - 14:30 (lunch) and 18:30 - 22:30 (dinner) **Tel:** +603 2731 8333 **Address:** The Westin Kuala Lumpur



## 6 CELESTIAL COURT KL

Offering innovative, halal Cantonese food, Celestial Court KL - set in Sheraton Imperial Hotel KL - ticks all the right boxes with a spacious venue of majestic elegance, presenting sweeping views of the nightclubs along Asian Heritage Row just opposite. When it comes to the food, the kitchen crew have truly blown the competition out of the water, with signature dishes such as honey-spiced roasted rack of lamb with sweet beans in Mongolian sauce, and sautéed sea tiger prawns with minced garlic and shallots. [Read more...](#) **Open:** Monday - Saturday: 12:00 - 14:30 & 18:30 - 22:30; Sunday & Public Holidays: 10:00 - 14:30 & 18:30 - 22:30 **Tel:** +603 2717 9988 **Address:** Sheraton Imperial Kuala Lumpur



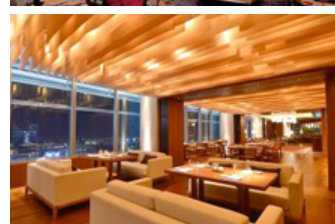
## 7 FRANGIPANI RESTAURANT

One of the best French fine-dining experiences in Malaysia, Frangipani Restaurant is split-level expanse of understated elegance located along Changkat Bukit Bintang. Offering an engaging combination of style and substance, the sophisticated downstairs dining space surrounds a reflecting black pool with white Raj-like columns and cream linen covered tables enclosing it. A menu of punchy, well-seasoned classics that practically explode with flavour makes for an almost out-of-this-world culinary experience. Upstairs is a stylish gay-friendly bar. [Read more...](#) **Open:** 19:30 - 22:30 dinner **Tel:** +603 2144 3001 **Address:** 25 Changkat Bukit Bintang



## 8 NOBU KL

A Michelin-starred titan in the world of sushi, sashimi and tempura, Nobu is a Japanese restaurant known all over the world for its unique food that blends Asian and South American (specifically Peruvian) flavours. There are more than 29 franchises over the globe, and Nobu KL is Southeast Asia's first branch. Set just one floor below Marini's on 57 in Menara Petronas 3, the halal Nobu KL offers 360 degree KL skyline views, including up-close sights of the Petronas Twin Towers. [Read more...](#) **Open:** 18:00 - 23:00 **Tel:** +60 3 2144 2200 ext 5811 **Address:** Level 56, Menara 3 Petronas, Persiaran KLCC



# WHERE TO GO FOR NIGHTLIFE

“ Kuala Lumpur's city centre - along with some choice urban spots - lights up at night as youngsters, revellers and yuppies frequent clubs, bars and pubs on the streets. After the sun sets, KL's nightspots offer a winning combination of lively and friendly ambience, extensive alcoholic beverages, & talented DJs spinning dance-worthy tunes until the wee hours of morning. ”

## 1 CHANGKAT BUKIT BINTANG

Regarded as Kuala Lumpur's definitive party venue, Changkat Bukit Bintang is a narrow avenue filled with restaurants that transform into nightclubs with cocktails bars and pubs that transform into rowdy drinking joints, with DJs spinning music, ranging from house and electro to remixed pop and hip-hop tunes. Amongst the bevy of watering holes, there are a number of crowd-favourite establishments such as Pisco Bar, Frangipani, and Havana Bar & Grill.

[Read more...](#)



## 2 ROOFTOP BARS

Some of the best nightlife in Kuala Lumpur happens far above the city streets, and rooftop bars are gaining massive popularity amongst Kuala Lumpur's late night revellers. It has resulted in numerous nocturnal hotspots that range from classy ristorantes to cocktail lounges nestled atop high-rise structures. Offering great ambience and breathtaking views of Kuala Lumpur, rooftop bars are your best bet if you want to just sit back and watch the sun set below the city horizon - with a drink in hand, of course. Some of the best rooftop bars in Kuala Lumpur include Marini's on 57, Sky Bar and Troika Sky Dining.

[Read more...](#)



## 3 PETALING STREET NIGHT MARKET

The nightlife in Chinatown is in a league of its own - it's not about rows of clubs, pubs and bars offering music-and-alcohol-fuelled entertainment, but the colourful after-dark market along Petaling Street that dominates the nightlife scene here. A well-known shopping district, the whole area transforms into a lively and vibrant night market after dark, with hundreds of stalls selling apparels, souvenirs, and accessories at dirt-cheap prices, making it the most happening night market in the city.

[Read more...](#)



## 4 JALAN ALOR

Hosting numerous hawker stalls and seafood restaurants, Jalan Alor is one of the most famous roads in Kuala Lumpur for food. Located just behind Jalan Bukit Bintang and a short walk away from Changkat Bukit Bintang, it is a favourite after-clubbing dining spot in the Golden Triangle area. A sharp contrast to trendy Jalan Bukit Bintang and Changkat Bukit Bintang, Jalan Alor has a traditional charm to it with atmospheric air-conditioned Chinese seafood restaurants, bright fluorescent restaurant signage lighting and mini red Chinese lanterns strung up in the trees.

[Read more...](#)



## 5 BANGSAR

Bangsar, a popular expatriate stomping ground in Kuala Lumpur, is famous for its lively nightlife haunts. It is home to a variety of nightspots ranging from funky pubs and mini night clubs and to resto-bars and elegant cafés. While Bangsar's nightlife scene pales in comparison to Changkat Bukit Bintang, the streets in the area are crawling with college students, yuppies, tourists and expatriates during the weekends. Some of the most well-patronised establishments in Bangsar include SIX Cocktail Lounge, Ril's, The Social, and La Bodega.

[Read more...](#)



## 6 JALAN P. RAMLEE

When it comes to nightlife in Kuala Lumpur, Jalan P. Ramlee is considered one of the city's hottest venues. In comparison to its neighbour (Changkat Bukit Bintang), Jalan P. Ramlee can best be described as a wackier and more eccentric nightspot with throngs of party-goers club-hopping from one establishment to another. Lively and vibrant after dark, exciting nightlife options line the street, each looking as colourful on the inside as they do on the outside.

[Read more...](#)



## 7 ASIAN HERITAGE ROW

Popular with the young and yuppie crowd, the Asian Heritage Row is a section of Jalan Doraisamy which gives way to a spectacular stretch of converted colonial buildings. Located just off Jalan Sultan Ismail right next to Sheraton Imperial Kuala Lumpur, the avenue features once-abandoned 80-year old houses that have been turned into trendy dining and entertainment options with elegant and arresting façades.

[Read more...](#)



## 8 NIGHT MARKETS (PASAR MALAM)

Pasar Malams (Malay for night markets) are an incredibly prominent feature in the Malaysian shopping experience. Available in every state throughout the country, these after-dark souks are all the rage because they allow locals and tourists to shop for inexpensive goods. Busy streets within residential neighbourhoods are shut down to traffic (one day only in a week) and stalls are set up as early as 18:00. In Kuala Lumpur, you can find many night markets happening each day in different places throughout the weeks selling all sorts of merchandise under the sun.

[Read more...](#)





# WHERE TO SHOP

“ Kuala Lumpur has a diverse retail landscape that caters to different budget levels & shopping preferences. The air-conditioned shopping complexes in the Bukit Bintang, KLCC, Bangsar and Petaling Jaya area are your best bet if you're after designer merchandise while seeking a reprieve from the humid weather. However, it's KL's street markets that define its shopping experience - these bazaars are the best places to find inexpensive apparel and unique knick knacks while you sample local specialties and chat with the locals. ”

## 1 PAVILION SHOPPING MALL

Located at the centre of the uber trendy Bukit Bintang district, Pavilion Kuala Lumpur is a sprawling 127,000sqm complex that comprised of three major components - a retail mall, an office block and two residential towers. Occupying prime real estate along Jalan Bukit Bintang, the mall was opened in 2007 and is noteworthy as the city centre's trendiest and most popular shopping development. [Read more...](#) **Open:** 10:00-22:00 **Location:** Right next to Grand Millennium Kuala Lumpur, across the street from JW Marriott and Starhill Gallery. **How to get there:** By Monorail at Bukit Bintang Station



## 2 SURIA KLCC

An upmarket shopping mall situated between the Petronas Twin Towers, Suria KLCC is one of the most tourist-visited malls in the city. A popular stopover for tours, the shopping podium sports a classy atmosphere and carries designer marques such as Louis Vuitton, Prada, Marc Jacobs, Hermès and more. The six-storey complex's entertainment offerings include a 12-screen movie theatre, a concert hall, an art gallery, a science discovery centre and a branch of Kinokuniya - a Japanese book store. [Read more...](#) **Open:** 10:00-22:00 **Location:** Suria KLCC, Kuala Lumpur city centre. **How to get there:** KLCC LRT



## 3 MID VALLEY MEGAMALL

The best shopping opportunity is not actually within Bangsar itself, but very near it; the Mid Valley Shopping mall is one of the largest in Southeast Asia and is arguably Klang Valley's most popular shopping attraction. From Bangsar, it is a mere few minutes away using a large flyover that cuts across the smaller Bangsar roads that lead to other areas. [Read more...](#) **Open:** 10:00-22:00 **Location:** Mid Valley City, Lingkaran Syed Putra. **How to get there:** RapidKL buses - U66, U84, U85, U87 and T631 or KTM Mid Valley station



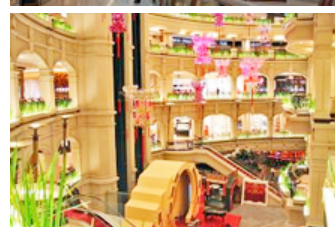
## 4 THE GARDENS MALL

Linked to Mid Valley Megamall via a covered pedestrian bridge and underground corridor, The Gardens Mall offers an upscale retail environment with a lengthy roster of luxury labels under its roof. Some of the brands represented at this mall include Burberry, Louis Vuitton, Versace, Hermes, Michael Kors, AX Armani Exchange, Gucci and Calvin Klein. [Read more...](#) **Open:** 10:00-22:00 **Location:** Mid Valley City, Lingkaran Syed Putra. **How to get there:** RapidKL buses - U66, U84, U85, U87 and T631 or KTM Mid Valley station



## 5 STARHILL GALLERY KUALA LUMPUR

Connected directly to the five-star JW Marriott, Starhill Gallery is a high-end shopping mall with seven floors of luxury retail experience. The Feast and Relish floors feature a myriad of fine-dining options, while the Indulge and Adorn floors showcase a variety of designer labels with the former focusing more on fashion labels. [Read more...](#) **Open:** 10:00-22:00 **Location:** Jalan Bukit Bintang. **How to get there:** Across the street from Pavilion KL, right next to Fahrenheit



## 6 BERJAYA TIMES SQUARE

Comprising 10 floors and more than 700 retail outlets, Berjaya Times Square is a one-stop leisure destination for all ages. Linked to a five-star hotel of the same brand name, it also comes with several food courts, an indoor theme park with an IMAX theatre, a cinema, a spa centre, a games arcade, a karaoke lounge, a supermarket, a post office, a bank, an IT mall and hundreds of retail outlets offering everything from food to fashion. [Read more...](#) **Open:** 10:00-22:00 **Location:** Opposite Melia Hotel. **How to get there:** Imbi Monorail Station



## 7 ONE UTAMA SHOPPING MALL

Located away from the city centre, but still within the Kuala Lumpur limits, is the expansive 1 Utama shopping mall (fondly known as 1U to locals). Housing over 650 stores along with a multitude of eateries and entertainment outlets, 1U spans over five million square feet and is located in Bandar Utama, a small suburb just off the Lebuhraya Damansara-Puchong. [Read more...](#) **Open:** 10:00-22:00 **Location:** Lebuhraya Damansara-Puchong (LDP Highway).



## 8 SUNWAY PYRAMID

Sunway Pyramid is 1.7 million-sqft Egyptian-themed mall adjacent to Sunway Lagoon Theme Park in Bandar Sunway, Subang Jaya. A distinctive retail landmark, it is one of the largest shopping centres in the country and the only one with an indoor ice skating rink. Some of the brands represented at this mall include Coach, Ms. Selfridge, Mango and Timberland. [Read more...](#) **Open:** 10:00-22:00 **Location:** Bandar Sunway. **How to get there:** RapidKL buses: U76 from KL Sentral and U623 from Kelana Jaya LRT station.



# TIPS AND GOOD TO KNOW

## DO NOT EVER LEAVE HOME WITHOUT...

1. An umbrella or raincoat for those unexpected showers.
2. Earplugs - to block out street noise when you stay at down-market hotels.
3. A bottle of water - Malaysia's weather is hot and humid, so make sure you keep yourself hydrated.
4. A photocopy of your passport - you never know when you might be asked to produce identification.
5. A universal electric plug.
6. High factor sun block.

## GASTRONOMIC TIPS

The country's staple dish is rice and noodles. Malaysian hawker fare is relatively safe but you should always take care not to dine in the grungiest shops as their levels of cleanliness are ultimately debatable. When eating with your hands, wash them first and try to use your right hand; use utensils to take food from a communal plate, never your fingers. Muslims are forbidden from eating pork - and most of them are incredibly strict about this rule - so never offer pork to Muslims. Also don't offer Muslims alcohol - although there are plenty who do partake in a little liquid indulgence now and again, especially the younger generation.

## TV, RADIO & NEWSPAPERS

The country only has two government TV channels (TV1 and TV2) and four commercial stations (TV3, NTV7, 8TV and TV9). In the KL area, radio stations include Traxx FM (90.3 FM), HITZ.FM (92.9FM), Mix FM (94.5FM), Fly FM (95.8FM), Red.FM (104.9FM) and Light & Easy (105.7FM). The country's major newspapers include the News Straits Times, the Star and the Malay Mail.

## MEASUREMENTS

Malaysia uses the metric system for weights and measurements.

## NEGOTIATE YOUR SOCKS OFF

You can usually bargain to get prices for merchandise reduced at street markets - sticker prices generally apply for items in shopping malls. If there's no barcode or price tag, then by all means start negotiating. Keep in mind that you'll catch more flies with honey than vinegar - smile as you parley and you're more likely to get deeper discounts. The best way to get the best price on an item you're coveting is to walk away - you'll definitely be called back for last ditch haggling.

## TAXI SCAMMERS

There are unscrupulous taxi drivers in the city who love to take advantage of unsuspecting foreigners' purse strings. These cabbies do not charge fares according to their taxi meters (as they are supposed to do) but charge inflated rates - the best way to deal with this is to refuse to pay the inflated price. Inform them that you are aware that they're supposed to use the meter and demand that they charge you the proper fare. A good rule of thumb is to knock off at least RM5 from the inflated price - but be warned that it's not a hard-and-fast rule; also be sure to take down the info of errant cabbies as you can report them to the authorities.

## WOMEN TRAVELLERS

Malaysia's a fairly liberal nation but rules of propriety still exist. Women are especially subjugated to the laws of convention and female tourists are encouraged to adhere to these standards. Dress modestly and try to blend in with the locals by being respectful, especially in areas of stronger Muslim religious sensibilities, such as the east coast of Peninsular Malaysia.

## EASY THAI PHRASES

**Selamat Pagi** = Good morning

**Selamat tengah hari** = Good afternoon

**Selamat petang** = Good evening

**Selamat malam** = Good night

**Selamat tinggal** = Good bye

**Jumpa lagi** = See you again

**Apa khabar?** = How are you?

**Khabar baik** = Fine, thanks

**Ya** = Yes

**Tidak** = No

**Tolong/ Silakan** = Please

**Terima kasih (Terima kasih banyak banyak)** = Thank you (Thank you very much)

**Boleh/ Sama sama** = That's fine/ You're welcome

**Maaf** = Excuse me/ Sorry/ Pardon

**Minta maaf** = I'm sorry

**Dari mana asal saudara?** = Where are you from?

**Saya datang dari...** = I come from...

**Siapa nama anda?** = What is your name?

**Nama saya ialah...** = My name is...

**Boleh cakap Bahasa English?** = Can you speak English?

**La** = thoroughly colloquial, 'la' is a word that is frequently added to end of a sentence/phrase by locals when speaking either English or Malay. It is merely added for emphasis to just about everything and has no real meaning





### FURAMA BUKIT BINTANG HOTEL KUALA LUMPUR

Stepping into the soft, slate-grey reception of the 27-storey Furama Bukit Bintang Kuala Lumpur, you will immediately feel like you are worlds away from busy KL. Rather than a cocktail bar, the lobby has a sunroom-style lounge where guests can enjoy deli-style snacks and sink into cushy, smoothly upholstered armchairs while listening to piped-in classical music. This four-star hotel is perfect for both business travellers wanting to stay in the thick of things, as well as for families eager for some of Bukit Bintang's best shopping. Hotel facilities include seven function rooms, a restaurant, gym and a cool rooftop pool, fringed by palm trees, with fantastic views of KL. [Read more...](#)

## EXCLUSIVE TOUR OFFERS FOR KUALA LUMPUR

“ Just for Asia Web Direct readers, we selected three most popular tours in Kuala Lumpur and worked hard to get very special prices for you, you won't find them anywhere else. If you have any question or wish to book **even at the last minute**, please call +60 (3) 2302 7556 ”



### KL HOP-ON HOP-OFF TOUR

The KL Hop-on Hop-Off Tour takes on the popular 'see it all' concept available in bigger cities such as London and Paris, but the key to the tour is that it maintains its flexibility. With 22 designated stops, and over 40 attractions throughout Kuala Lumpur, the double-decker, air-conditioned tour bus is equipped with facilities such as pre-recorded multi lingual commentary for each of the attractions and Wi-Fi, making it one of the most convenient tours around. [Read more...](#)

**Only from MYR45!**



### KL TOWER NIGHT TOUR

This Tour offer you an insight into the old & new, starting see Kuala Lumpur alive after sunset, visit the famous night bazaar of china town for bargains and sights. Next to the Kuala Lumpur Tower, one of the tallest in the world - 421m, here you can observe the awesome skyline of the KL city at night. After that, transfer to Twin Tower in Kuala Lumpur, Malaysia was the world's tallest twin building in the world. Later transfer back to hotel. [Read more...](#)

**Only MYR105!**



### BATU CAVES EXPERIENCE

This Half-Day Batu Caves Tour takes you on a journey to visit some of Kuala Lumpur's best-known cultural attractions. Batu Caves - a towering limestone outcropping just 13 kilometres north of Kuala Lumpur. The caves house numerous Hindu shrines and is a famous landmark in KL. Its 272 steps to reach the top where you can admire the limestone formations and watch devotees pay homage to their respective deities. [Read more...](#)

**Only MYR50!**



Conference Venue



Twin Tower



Golden Triangle (Famous Shopping Area)

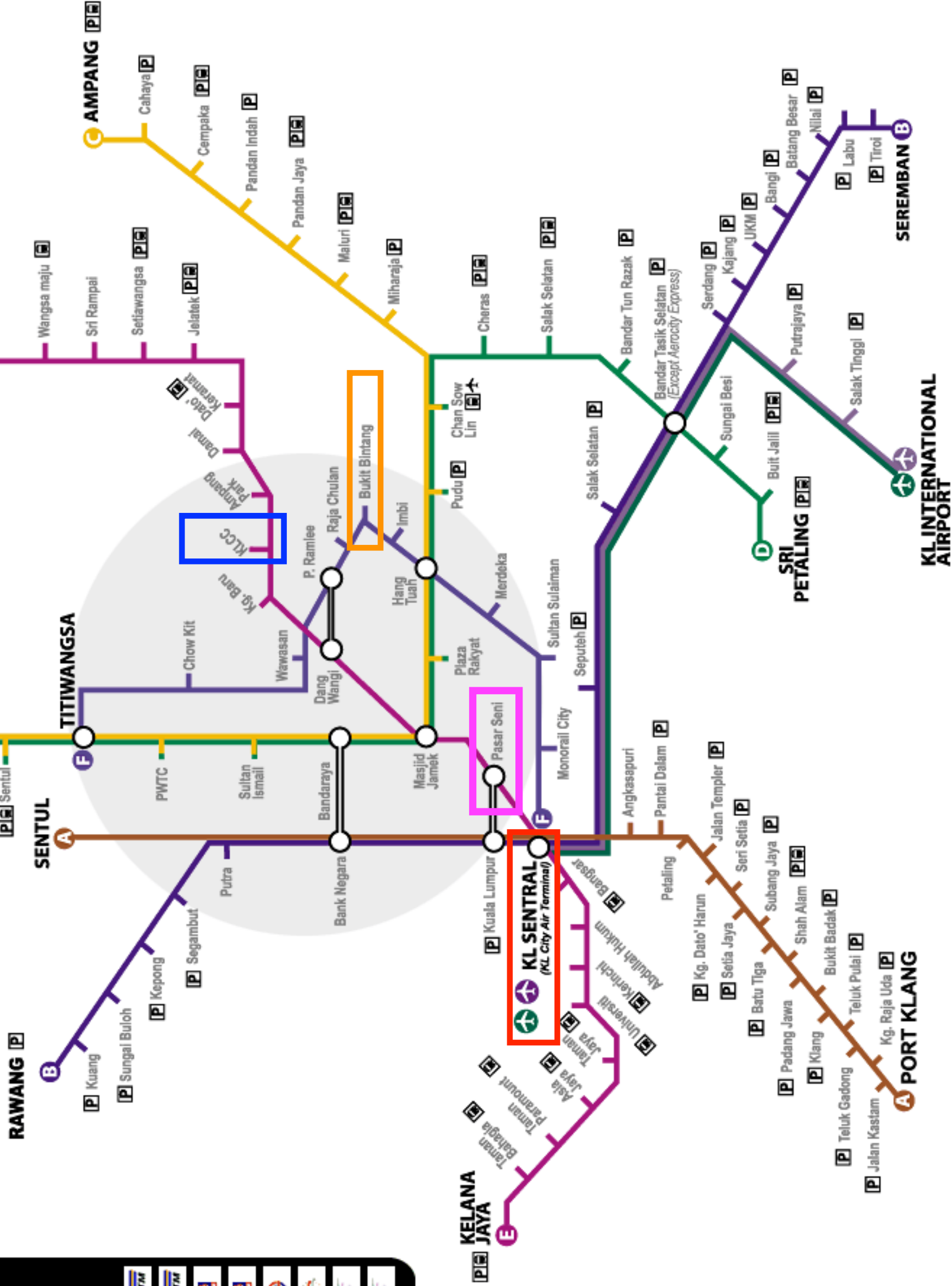


China Town



# TRANSIT

<b>A</b>	SENTUL PORT KLANG	
<b>B</b>	RAWANG SEREMBAN	
<b>C</b>	AMPANG SENTUL TIMUR	
<b>D</b>	SRI PETALING SENTUL TIMUR	
<b>E</b>	KELANA JAYA TERMINAL	
<b>F</b>	KL SENTRAL TITIWANGSA	
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