

## Kasthuri Jayarajah

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### CONTACT INFORMATION

Living Analytics Research Center  
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Singapore Management University,  
Singapore 178902.

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### RESEARCH INTERESTS

Mobile and Pervasive Computing, Deep Learning for Embedded Systems, Human Behavior Modeling, Edge Computing, Urban Analytics.

### EDUCATION

**Singapore Management University**, Singapore.

PhD in Information Systems (Ongoing), 2014 - 2019.  
Advisors: Dr. Archan Misra (SMU), Dr. Shili Xiang (A\*STAR).  
Thesis Title: Exploiting Mobility for Predictive Urban Applications & Operations.  
Committee: Anind Dey (University of Washington), Ramayya Krishnan (Carnegie Mellon University), Rajesh Balan (SMU), Ee-Peng Lim (SMU).

**Carnegie Mellon University**, Pittsburgh, USA.

Exchange Student during Fall 2016.

**National University of Singapore**, Singapore.

Master of Computing, Infocomm Security, June 2013. GPA: 4.5 (<5.0)

**University of Moratuwa**, Sri Lanka.

B. Sc. Eng., Electronic and Telecommunication Engineering, October 2010.  
Rank: 2nd, GPA: 4.10 (<4.20)

### RESEARCH EXPERIENCE

**Postdoctoral Researcher** July 2019 - present  
**Living Analytics Research Center, Singapore Management University.**  
*Advised by: Prof. Archan Misra.*

**Visiting Scholar** May 2017 - Aug 2017  
**Computer Laboratory, University of Cambridge, United Kingdom.**  
*Advised by: Prof. Cecilia Mascolo.*

**Visiting Scholar** Aug 2016 - Dec 2016  
**Assistive Technology Group, Human-Computer Interaction Institute, Carnegie Mellon University, USA.**  
*Advised by: Dr. Jennifer Mankoff, Dr. Anind Dey.*

**Research Intern** May 2015 - August 2015  
**Situational Understanding Research Institute, US Army Research Laboratory, USA.**  
*Advised by: Prof. Tarek Abdelzaher (UIUC), Dr. Geeth de Mel (IBM Research).*

**Research Engineer** July 2012 - July 2014  
**Living Analytics Research Center, Singapore Management University, Singapore.**  
*Advised by: Dr. Archan Misra.*

**Graduate Student Researcher** Jan 2012 - March 2012  
**Interactive and Digital Media Institute, National University of Singapore, Singapore.**  
*Advised by: Dr. Owen Noel Fernando.*

AWARDS AND  
HONORS

**Finalist**, Gaetano Borriello Outstanding Student Award, Presented at UbiComp 2019.  
**Best Paper Award**, at the 7th International Workshop on Pervasive Urban Applications (colocated with UbiComp18) 2018.  
**SMU Multidisciplinary Doctoral Fellowship**, 2018.  
**Google Women Techmakers Scholar (APAC)**, 2017.  
**Honorable Mention**, Open Mobility Task Challenge, co-located with ACM Conference on Information and Knowledge Management (CIKM) 2017.  
**A\*STAR Graduate Scholarship (AGS), 2014 - 2018**. Part of the first batch of SMU scholars to be awarded the AGS. A\*STAR is Singapore's leading public sector agency for spearheading economy-oriented research in STEM.  
**O. N. M. Kulashethra Award for academic excellence**, University of Moratuwa, 2013.  
**Winner of third prize**, NUS School of Computing Project Showcase 2012/2013.  
**Certificate of Appreciation**, Virtusa Corp., 2011.  
**Winner of Merit Award**, Tertiary Category, National Best Quality Software Awards, British Computer Society, Sri Lankan Chapter, 2010.  
**Mahapola Scholarship**, awarded by the Government of Sri Lanka, 2006.

PEER-REVIEWED  
JOURNAL AND  
CONFERENCE  
PUBLICATIONS

T. Abdelzaher, Y. Hao, **K. Jayarajah**, A. Misra, P. Skarin, S. Yao, D. Weerakoon and K. Arzen, Five Challenges in Cloud-Enabled Intelligence and Control, ACM Transactions on Internet Technologies (**ACM ToIT**), to appear, 2020.

**Jayarajah, K.** and A. Misra. Predicting Episodes of Non-Conformant Mobility in Indoor Environments. PACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), Volume 2, Issue 4, Article 172, December 2018. *UbiComp19*.

Meegahapola, L., T. Kandappu, **K. Jayarajah**, A. Misra, and L. Akoglu. BuSCOPE : Fusing Individual Aggregated Mobility Behavior for Live Smart City Services, 2019. *MobiSys19*.

S. Yao, Y. Hao, Y. Zhao, A. Piao, H. Shao, D. Liu, S. Liu, S. Hu, D. Weerakoon, **K. Jayarajah**, A. Misra and T. Abdelzaher, Eugene: Towards Deep Intelligence as a Service, to appear, 39th IEEE International Conference on Distributed Computing Systems (ICDCS), July 2019.

D. Weerakoon, **K. Jayarajah**, R. Tandriansyah, A. Misra. Resilient Collaborative Intelligence for Adversarial IoT Environments, *The 22nd International Conference on Information Fusion (FUSION 2019)*.

L. Meegahapola1, N. Athaide, **K. Jayarajah**, S. Xiang, A. Misra. Inferring Accurate Bus Trajectories from Noisy Estimated Arrival Time Records, *IEEE Intelligent Transportation Systems Conference (ITSC 2019)*.

K. DSilva, **K. Jayarajah (\*co-primary)**, A. Noulas, C. Mascolo, and A. Misra. The Role of Urban Mobility in Retail Business Survival. PACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), Volume 2, Issue 3, Article 100, September 2018. *UbiComp18*.

Gupta, R., S. Mukherjee, **K. Jayarajah**. Role of Group Cohesiveness in Consumers Responses to Mobile Promotions, 2017. *Association For Consumer Research Conference North America Advances (ACR)*.

**Jayarajah, K.**, R. K. Balan., M. Radhakrishnan, A. Misra and Y. Lee. LiveLabs: Enabling In-Situ Behavioural Experiments, 2016. *MobiSys16*.

**Jayarajah, K.** and A. Misra. Can Instagram Help Understand Micro-Events?. *The 19th International Conference on Information Fusion (FUSION 2016)*.

**Jayarajah, K.**, Y. Lee, A. Misra, R. K. Balan. Need Accurate User Behavior? Pay Attention to Groups!, 2015. *UbiComp15*.

**Jayarajah, K.**, A. Misra, X. W. Ruan, E. P. Lim. Event Detection: Exploiting Socio-Physical Interactions in Physical Spaces, 2015. *IEEE/ACM ASONAM'15*.

Sen, R., Y. Lee, **K. Jayarajah**, A. Misra and R. K. Balan. GruMon: Fast and Accurate Group Monitoring for Heterogeneous Urban Spaces, 2014. *SenSys14*.

Liu, S., S. Wang, **K. Jayarajah**, A. Misra and R. Krishnan. TODMIS: Mining communities from trajectories, 2013. *CIKM13*.

Khan, A.J., **K. Jayarajah**, D. Han, A. Misra, R. K. Balan and S. Seshan. CAMEO: a middleware for mobile advertisement delivery, 2013. *MobiSys13*.

WORKSHOP AND  
OTHER  
PUBLICATIONS

A. Misra, **K. Jayarajah**, D. Weerakoon, R. Tandriansyah, S. Yao, T. Abdelzaher. Dependable machine intelligence at the tactical edge, *SPIE Defense+Security 2019*.

**Jayarajah, K.**, A. Tan and A. Misra. Exploiting the Inter-dependency of Land Use and Mobility for Applications in Urban Planning, 2018 *UbiComp/ISWC 2018 Adjunct Proceedings, Best Paper*.

**Jayarajah, K.**, V. Subbaraju, N. Athaide, L. Meegahapola, A. Tan and A. Misra. Can multimodal sensing detect and localize transient events?, *SPIE Defense+Security 2018*.

**Jayarajah, K.**, V. Subbaraju, D. Weerakoon, A. Misra, L. T. Tam and N. Athaide. Discovering Anomalous Events from Urban Informatics Data. *SPIE Defense+Security 2017*.

**Jayarajah, K.**, Z. Lantra and A. Misra. Fusing WiFi and Video Sensing for Accurate Group Detection in Indoor Spaces. *The Third Intl' Workshop on Physical Analytics (co-located with ACM MobiSys 2016)*.

**Jayarajah, K.**, M. Radhakrishnan, C. Zakaria. Duplicate Issue Detection for the Android Open Source Project, *5th Intl' Workshop on Software Mining (co-located with IEEE/ACM Intl' Conference on Automated Software Engineering 2016)*.

Misra, A., Z. Lantra and **K. Jayarajah**. Ontology-aided Feature Correlation for Multi-Modal Urban Sensing, *SPIE Defense+Security 2016*.

Dai, B. T., **K. Jayarajah**, E. P. Lim, A. Misra, S. Nayak. A Study on Singapore Haze. 1st International Workshop on Understanding Situations Through Multimodal Sensing (co-located with ICDCN), 2016.

**Jayarajah, K.**, S. Yao, R. Mutharaju, A. Misra, G. De Mel, J. Skipper, T. Abdelzaher, M. Kolodny. Social Signal Processing for Real-Time Situational Understanding: A Vision and Approach. SocialSens Workshop co-located with IEEE MASS, 2015.

**Jayarajah, K.**, M. Radhakrishnan, C. S. Hoi, A. Misra. Candy Crushing Your Sleep, 4th Workshop on Mobile Systems for Computational Social Science (co-located with ACM Ubicomp 2015).

Nayak, S., A. Misra, **K. Jayarajah**, P. K. Prasetyo, E. Lim. Exploring Discriminative Features for Anomaly Detection in Public Spaces, *SPIE DSS 2015*.

**Jayarajah, K.**, R. Kauffman, A. Misra. Exploring Variety Seeking Behavior in Mobile Users.

UbiComp'14 Adjunct Proceedings, September 2014.

Misra, A., **K. Jayarajah**, S. Nayak, P. K. Prasetyo and E. Lim. Socio-Physical Analytics: Challenges and Opportunities. 1st Workshop on Physical Analytics colocated with ACM MobiSys 2014.

Naoko, T., I. Horathalge, O. N. N. Fernando, K. Zhu, **K. Jayarajah**, Y. Fernandopulle, R. Nakatsu. KabukiMono+: The Art of Kabuki Transformed, 3rd International Conference on Culture and Computing, 2012.

Sivakumaran, P., **K. Jayarajah**, I. Kanaganayagam, C. Gopalasingham, E. C. Kulasekere. Sonar Navigation Aid for the Visually Impaired, In proceedings of the 16th Annual Symposium of the Engineering Research Unit, Sri Lanka, November 2010, 193-198.

DEMOS AND  
POSTERS

**Jayarajah, K.**, Z. Lantra, R. Kumar, A. Misra. Fusing WiFi and Video Sensing for Accurate Group Detection in Indoor Spaces, ACM MobiSys 2016.

**Jayarajah, K.**, A. Misra, X. W. Ruan, E. P. Lim. Social Interactions-based Event Detection for Public Spaces , ICDCN 2016.

**Jayarajah, K.**, Sen, R., Y. Lee, S. Nayak, A. Misra and R. K. Balan. Group analytics and insights for public spaces, ACM SenSys 2014.

Sen, R., Y. Lee, **K. Jayarajah**, A. Misra and R. K. Balan. GruMon: Fast and Accurate Group Monitoring for Heterogeneous Urban Spaces, ACM HotMobile 2014.

SERVICES

<b>Reviewer</b>	2020	AAAI ICWSM, Elsevier Sustainable Cities
<b>Reviewer</b>	2017 - 2020	PACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) - [ <b>Special Recognition for Outstanding Review × 1</b> ]
<b>Reviewer</b>	2019	ACM CSCW, ACM ISWC, ACM UIST, CHI'19 Late Breaking Work
<b>Reviewer</b>	2016	IEEE Transactions on Mobile Computing
<b>TPC</b>	2020	ACM IoTDI
<b>TPC</b>	2018	ACM MobiSys Phd Forum
<b>TPC</b>	2017	ACM S3 Workshop (co-located with ACM MobiCom 2017)
<b>Web Director</b>	2017 - current	ACM SIGMOBILE
<b>Co-SV Chair</b>	2018	UbiComp
<b>Co-Web Chair</b>	2018	UbiComp
<b>Co-Chair</b>	2016	Women's Workshop co-located with MobiSys 2016
<b>Co-Web Chair</b>	2016	14th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys 2016)
<b>Board Member</b>	2015-2016	Networking Networking Women (An ACM SIGMOBILE program supported by IEEE COMSOC, IEEE TCCN, MSR, Google and HP Labs.
<b>Web Chair</b>	2016	17th International Conference on Distributed Computing and Networking. January, 2016
<b>Web Chair</b>	2015	2nd International Workshop on Physical Analytics, colocated with MobiSys'15. May, 2015
<b>Web Chair</b>	2015	4th ACM Workshop on Mobile Systems for Computational Social Science. September, 2015
<b>Founding Member</b>	2010	Environment, Health and Safety Initiative, Virtusa Corp.

STUDENTS	Manasa Kalanadhabhatta (Undergrad), Shiv Nadar University, India. January – May 2018.
CO-MENTORED	Dulanga Weerakoon (Undergrad), University of Moratuwa, Sri Lanka. December 2016 to February 2017.
WITH ADVISOR	Sumit Singh (Masters), Indian Institute of Technology, Kharagpur, India. June 2016 - July 2016. Zaman Lantra (Undergrad), University of Moratuwa, Sri Lanka. October 2015 to April 2016.
IN MEDIA	<i>Cambridge Press Release</i> , Location, location, location: researchers develop model to predict retail failure. Oct, 2018.  <i>Science Talk, The Straits Times</i> , Urban Living in the Age of Smart City (Opinion Editorial). May, 2018.  <i>Research@SMU, Issue 14</i> , LARC Research Exhibition: Better Living Through Analytics. May, 2014.
REFERENCES	Available upon request.