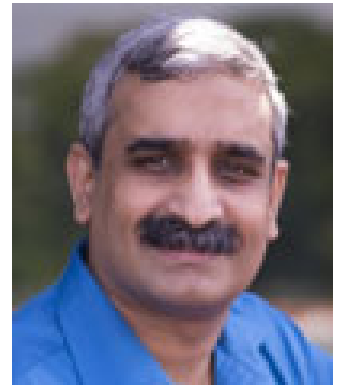


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Education

PhD, Carnegie Mellon University, United States of America, 2006
Master of Science, National University of Singapore, Singapore, 2000
Bachelor of Science, National University of Singapore, Singapore, 1998

Academic Appointments

Associate Professor of Information Systems, School of Information Systems, SMU, Jul 2013 - Present
Assistant Professor of Information Systems, School of Information Systems, SMU, Jul 2006 - Jun 2013

Academic Administrative Positions

Director, LiveLabs Urban Lifestyle Innovation Platform, Livelabs Urban Lifestyle Innovation Platform, SMU, Jul 2015 - Mar 2019
Co-Director, LiveLabs Urban Lifestyle Innovation Platform, Livelabs Urban Lifestyle Innovation Platform, SMU, Jul 2012 - Jun 2015

Awards and Honors

ACM Distinguished Member, Association for Computing Machinery, 2018

RESEARCH

Research Interests

Mobile and pervasive computing
Operating systems
Distributed computing
Software engineering
Usability of software systems
Usability testing
Networking

Publications

Journal Articles [Refereed]

StressMon: Scalable detection of perceived stress and depression using passive sensing of changes in work routines and group interactions, by ZAKARIA, Camellia; BALAN, Rajesh Krishna; LEE, Youngki. (2019). *Proceedings of the ACM on Human-Computer Interaction*, 3 37:1-37:29. <https://doi.org/10.1145/3359139> (Published)

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Real-time detection of seat occupancy and hogging, by NGUYEN, Huy Hoang; GULATI, Nakul; LEE, Youngki; BALAN, Rajesh Krishna. (2015.0). *IoT-App '15: Proceedings of the 2015 International Workshop on Internet of Things towards Applications: Seoul, Korea, November 1*, (pp. 29-34) New York: ACM. <https://doi.org/10.1145/2820975.2820981> (Published)

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GameOn: p2p gaming on public transport, by ZHANG, Nairan, LEE, Youngki, RADHAKRISHNAN, Meera, BALAN, Rajesh Krishna. (2015.0). *MobiSys '15: Proceedings of the 13th Annual International Conference on Mobile Systems, Applications, and Services: May 19-22, Florence, Italy*, (pp. 105-119) New York: ACM. <https://doi.org/10.1145/2742647.2742660> (Published)

Matchmaking game players on public transport, by ZHANG, Nairan; LEE, Youngki; BALAN, Rajesh Krishna. (2015.0). *MobiGames '15: Proceedings of the 2nd Workshop on Mobile Gaming, Florence, Italy, May 19*, (pp. 31-36) New York: ACM. <https://doi.org/10.1145/2751496.2751503> (Published)

QueueVadis: Queuing analytics using smartphones, by OKOSHI, Tadashi; LU, Vu; VIG, Chetna; LEE, Youngki; BALAN, Rajesh Krishna; MISRA, Archan. (2015.0). *IPSN '15: Proceedings of the 14th International Conference on Information Processing in Sensor Networks, Seattle, 13-16 April*, (pp. 214-225) New York: ACM. <https://doi.org/10.1145/2737095.2737120> (Published)

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Real-time trip information service for a large taxi fleet, by BALAN, Rajesh Krishna; KHOA, Nguyen Xuan; JIANG, Lingxiao. (2011.0). *MobiSys '11: Proceedings of the 9th International Conference on Mobile Systems, Applications and Services: Bethesda, MD, June 28 - July 1*, (pp. 99-112) New York: ACM. <https://doi.org/10.1145/1999995.2000006> (Published)

Configuring global software teams: A multi-company analysis of productivity, quality, and profits, by RAMASUBBU, Narayanasamy; CATALDO, Marcelo; BALAN, Rajesh Krishna; HERBSLEB, James. (2011.0). *ICSE 2011: Proceedings of the 2011 International Conference on Software Engineering: May 21-28, Waikiki, Honolulu*, (pp. 261-270) New York: ACM. <https://doi.org/10.1145/1985793.1985830> (Published)

PGTP: Power aware game transport protocol for multi-player mobile games, by ANAND, Bhojan; SEBASTIAN, Jeena; MING, Soh Yu; ANANDA, Akhihebbal L.; CHAN, Mun Choon; BALAN, Rajesh Krishna. (2011.0). *International Conference on Communications and Signal Processing ICCSP 2011: 10 - 12 February 2011, [Calicut], Kerala, India*, (pp. 399-404) Piscataway, NJ: IEEE. <https://doi.org/10.1109/ICCSP.2011.5739346> (Published)

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Evolution of a Bluetooth Test Application Product Line: A Case Study, by RAMASUBBU, Narayanasamy; BALAN, Rajesh Krishna. (2010.0). *Proceedings of the 18th ACM SIGSOFT Symposium on the Foundations of Software Engineering (FSE), November 7 - 11, 2010, Santa Fe, NM*, (pp. 107-116) New York: ACM. <http://dx.doi.org/10.1145/1882291.1882309> (Published)

Game action based power management for multiplayer online game, by ANAND, Bhojan; ANANDA, A. L.; CHAN, Mun Choon; LE, Long Thanh; BALAN, Rajesh Krishna. (2009.0). *MobiHeld '09: Proceedings of the 1st ACM Workshop on Networking, Systems, and Applications on Mobile Handhelds, Barcelona, Spain, August 17*, (pp. 55-60) New York: ACM. <https://doi.org/10.1145/1592606.1592619> (Published)

mFerio: The design and evaluation of a peer-to-peer mobile payment system, by BALAN, Rajesh Krishna; RAMASUBBU, Narayanasamy; PRAKOBPHOL, Komsit; CHRISTIN, Nicolas; HONG, Jason. (2009.0). *MobiSys '09: Proceedings of the 7th ACM International Conference on Mobile Systems, Applications and Services, June 22-25, Krakow, Poland*, (pp. 291-305) New York: ACM. <https://doi.org/10.1145/1555816.1555846> (Published)

The impact of process choice in high maturity environments: An empirical analysis, by RAMASUBBU, Narayanasamy; BALAN, Rajesh Krishna. (2009.0). *IEEE 31st International Conference on Software Engineering: ICSE 2009: 16-24 May, Vancouver, Canada: Proceedings*, (pp. 529-539) Piscataway, NJ: IEEE. <https://doi.org/10.1109/ICSE.2009.5070551> (Published)

User guidance of resource-adaptive systems, by SOUSA, Joo Pedro; BALAN, Rajesh Krishna; POLADIAN, Vahe; GARLAN, David; SATYANARAYANAN, Mahadev. (2008.0). *Proceedings of the Third International Conference on Software and Data Technologies: Porto, Portugal, July 5-8, 2008*, (pp. 36-44) Porto, Portugal: INSTICC Press. <https://worldcat.org/isbn/9789898111524> (Published)

Towards Governance Schemes for Distributed Software, by RAMASUBBU, Narayanasamy; BALAN, Rajesh Krishna. (2008.0). *SDG '08: Proceedings of the 1st International Workshop on Software Development Governance: 2008, Leipzig, Germany, May 12-12, 2008*, (pp. 11-14) New York: ACM. <http://dx.doi.org/10.1145/1370720.1370725> (Published)

Globally Distributed Software Development Project Performance: An Empirical Analysis, by RAMASUBBU, Narayanasamy; BALAN, Rajesh Krishna. (2007.0). *ESEC/FSE 2007: The 6th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering: Dubrovnik, Croatia, September 3-7, 2007*, (pp. 125-134) New York: ACM. <http://dx.doi.org/10.1145/1287624.1287643> (Published)

Simplifying Cyber Foraging for Mobile Devices, by BALAN, Rajesh Krishna; Gergle, Darren;

Satyanarayanan, Mahadev; Herbsleb, James. (2007.0). *MobiSys '07: Proceedings of the 5th International Conference on Mobile Systems, Applications and Services: San Juan, Puerto Rico, June 11-13, 2007*, (pp. 272-285) New York: ACM. <http://dx.doi.org/10.1145/1247660.1247692> (Published)

Matrix: Adaptive middleware for distributed multiplayer games, by BALAN, Rajesh Krishna; EBLING, Maria; CASTRO, Paul; MISRA, Archan. (2005.0). *Middleware 2005: ACM/IFIP/USENIX 6th International Middleware Conference, Grenoble, France, November 28 - December 2: Proceedings*, (pp. 390-400) Berlin: Springer. https://doi.org/10.1007/11587552_20 (Published)

Tactics-Based Remote Execution for Mobile Computing, by BALAN, Rajesh Krishna; SATAYANARAYANA, Mahadev; PARK, SoYoung; OKOSHI, Tadashi. (2003.0). *MobiSys '03: Proceedings of the 1st International Conference on Mobile Systems, Applications and Services: San Francisco, May 5-8, 2003*, (pp. 273-286) New York: ACM. <http://dx.doi.org/10.1145/1066116.1066125> (Published)

The Case for Cyber Foraging, by BALAN, Rajesh Krishna; Flinn, Jason; Satyanarayanan, Mahadev; Sinnamohideen, Shafeeq; YANG, Hen-I. (2002.0). *EW 10: Proceedings of the 10th Workshop on ACM SIGOPS European Workshop: Saint Emillion, France, July 1, 2002*, (pp. 87-92) New York: ACM. <http://dx.doi.org/10.1145/1066116.1066125> (Published)

TCP HACK: TCP Header Checksum Option to Improve Performance Over Lossy Links, by BALAN, Rajesh Krishna; LEE, Boon Peng; KUMAR, Renjish; Lillykutty, Jacob; Seah, Winston; Ananda, A. L.. (2001.0). *INFOCOM 2001: Proceedings of 20th Annual Joint Conference on Computer Communications, 22-26 April 2001, Anchorage, Alaska*, (pp. 309-318) Piscataway, NJ: IEEE. <http://dx.doi.org/10.1109/INFCOM.2001.916713> (Published)

Conference Papers

WiWear: Wearable sensing via directional wifi energy harvesting, by TRAN, Vu H.; MISRA, Archan; XIONG, Jie; BALAN, Rajesh Krishna. (2019.0). *2019 IEEE International Conference on Pervasive Computing and Communications (PerCom), Kyoto, Japan, March 11-15, Kyoto*. <https://doi.org/10.1109/PERCOM.2019.8767406> (Published)

Moved by conflict: Exploring the relationship between experienced conflict and individual mobility patterns, by ZAKARIA, Nur Camellia Binte; GOH, Kenneth T.; LEE, Youngki; BALAN, Rajesh Krishna. (2018.0). *Interdisciplinary Network for Group Research, Baltimore, Maryland, US, 2018 July 19-21, Baltimore, Maryland, US*. (Presented)

Other Outputs and Contributions

Reports

Spatio-temporal efficiency in a Taxi Dispatch System by SANTANI, Darshan; BALAN, Rajesh Krishna; WOODARD, C. Jason. (2008). (Published)

Dimorphic Computing by Lagar-Cavilla, H. Andreas; Tolia, Niraj; BALAN, Rajesh Krishna; De Lara, Eyal; Satyanarayanan, Mahadev; O'Halloran, David. (2006). <http://repository.cmu.edu/pdl/43/> (Published)

Giving Users the Steering Wheel for Guiding Resource-Adaptive Systems by SOUSA, Joao; BALAN, Rajesh Krishna; Poladian, Vahe; Garlan, David; Satyanarayanan, Mahadev. (2005). (Published)

Meeting the software engineering challenges of adaptive mobile applications by BALAN, Rajesh Krishna; SOUSA, Joao Pedro; SATYANARAYANAN, Mahadev. (2003). <https://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.13.728> (Published)

Research Grants

Singapore Management University

Identifying Personas Using Video Analytics, Microsoft Research Asia Collaborative Research, Microsoft Research Asia , PI (Project Level): Rajesh Krishna BALAN, 2019

Building a Practical Location System for Tracking Consumer Movement in Indoor Public Spaces, Microsoft Research Asia , PI (Project Level): Rajesh Krishna BALAN, 2013, S\$26,000

Windows Phone 7 Location Detection Framework, Microsoft Research Asia , PI (Project Level): Rajesh Krishna BALAN, 2012, S\$15,120

LiveLabs Urban Lifestyle Innovation Platform, Digital Technology Development Scheme, Media Development Authority of Singapore (MDA) , PI (Programme Level): Rajesh Krishna BALAN , PI (Project Level): Archan MISRA, 2012, S\$9,994,000

Energy-Efficient Stream Analytics on Smartphones for Realtime Contextual Insight, Academic Research Fund (AcRF) Tier 2, Ministry of Education (MOE) , PI (Project Level): Archan MISRA , Co-PI (Project Level): Rajesh Krishna BALAN, 2011, S\$1,167,365

Power and Network-Aware Software Infrastructure for Multiplayer Mobile Games, Academic Research Fund (AcRF) Tier 2, Ministry of Education (MOE) , PI (Project Level): Rajesh Krishna BALAN, 2008, S\$1,168,000

Personality in Real-Time Real-World Behaviour, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): William TOV, 2015, S\$25,580

User-Centric Mobile Authentication Mechanisms, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Rajesh Krishna BALAN, 2009, S\$9,408

Estimating Costs in Distributed Software Development and System Migration, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Narayan RAMASUBBU , Co-PI (Project Level): Rajesh Krishna BALAN, 2008, S\$14,650

Digital Wallet Creation, Testing, and Deployment, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Rajesh Krishna BALAN, 2007, S\$49,400

TEACHING

Courses Taught

Singapore Management University

Undergraduate Programmes :

- Mobile & Pervasive Technology
- Software Engineering
- Software Project Management

Postgraduate Professional Programmes :

- Empirical Research Project 1
- Empirical Research Project 2
- Empirical Research Project 3
- Empirical Research Project 4

THESES AND DISSERTATIONS

Theses and Dissertations Supervised

Singapore Management University

Supervisor, "Enabling Real-Time In-Situ Context-based Experimentation to Observe User Behaviour", Dissertation by KARTIK MURALIDHARAN, PhD in Information Systems, Singapore Management University, 2015

Theses and Dissertations Assessed

Singapore Management University

Committee Member, "Fusing Mobile, Wearable and Infrastructure Sensing for Daily Lifestyle Analytics", Dissertation by SOUGATA SEN, PhD in Information Systems, Singapore Management University, 2017

Committee Member, "A Dependency Graph Method for Analyzing Software Modifiability", Dissertation by KEVIN STEPPE, PhD in Information Systems, Singapore Management University, 2015

EXTERNAL SERVICE PROFESSIONAL

Program Chair, The International Conference on Mobile Systems, Applications, and Services (MobiSys), Association of Computing Machinery (ACM), 2019

Program Chair, 11th International Conference on Communication Systems & Networks (COMSNETS), COMSNETS, 2019

Committee Member, UbiComp Steering Committee, Association for Computing Machinery, 2018 - 2022

Program Committee Chair, The 17th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys), Association for Computing Machinery Special Interest Group on Mobile Computing (SIGMOBILE), 2018 - 2019

Program Committee Chair, 11th International Conference on Communication Systems & Networks (COMSNETS), COMSNETS Association, 2018 - 2019

Chairperson, 2nd Asian Students Symposium on Emerging Technologies (ASSET), ACM SIGMOBILE, 2018

General Chair, The ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp), ACM SIGMOBILE & ACM SIGCHI, 2018

Presenter Keynote Address, 8th Annual International Conference on Computer Science Education, Innovation and Technology (CSEIT), Global Science and Technology Forum (GSTF), 2017

Student Engagement Director, Executive Committee, Association for Computing Machinery Special Interest Group on Mobile Computing (SIGMOBILE), 2017 - 2022

Program Chair, 4th Workshop on Physical Analytics (WPA), ACM SIGMOBILE, 2017

Member, Test of Time Paper Award Committee, ACM SIGMOBILE, 2017

Workshop Chair, The 13th International Conference on emerging Networking EXperiments and Technologies (CoNEXT), ACM SIGCOMM, 2017

Presenter Keynote Address, 17TH IEEE International Conference on Mobile Data Management (MDM), IEEE COMSOC, 2016

Poster & Demo Chair, 17th International Conference on Distributed Computing and Networking (ICDCN), ICDCN, 2016

Chairperson, 1st Asian Students Symposium on Emerging Technologies (ASSET), ACM SIGMOBILE, 2016

Presenter Keynote Address, 2nd Workshop on Mobile Gaming (MobiGames), ACM SIGMOBILE, 2015

Poster & Demo Session Chair, The 13th ACM Conference on Embedded Networked Sensor Systems (SenSys), ACM SIGMOBILE, 2015

Workshop Chair, The 13th Annual International Conference on Mobile Systems, Applications and Services (MobiSys), ACM SIGMOBILE, 2015

Invited Lecture, 6th International Conference on Communication Systems and Networks (COMSNETS), COMSNETS, 2014

Program Chair, The ACM Multimedia Systems Conference Special Session on Mobile Multimedia Sensing (MMSys), ACM SIGMM, 2014

Program Chair, The Seventh International Conference on Mobile Computing and Ubiquitous Networking (ICMU), Information Processing Society Of Japan, 2014

Program Chair, 1st Workshop on Mobile Gaming (MobiGames), ACM SIGCOMM, 2012

Editor Journal Editor, IEEE Pervasive Computing Magazine Special Issue on Transportation Systems, IEEE Computer Society, 2012 - 2013

Program Chair, The Thirteenth Workshop on Mobile Computing Systems and Applications (HotMobile), ACM SIGMOBILE, 2012

Poster Session Chair, The 3rd Asia-Pacific Workshop on Systems (APSys), ACM SIGOPS and ACM SIGCOMM, 2012

Poster / Demo Session Chair, The Twelfth International Workshop on Mobile Computing Systems and Applications (HotMobile), ACM SIGMOBILE, 2011

Poster & Demo Chair, The 7th Annual International Conference on Mobile Systems, Applications, and Services (MobiSys), ACM SIGMOBILE, 2009

Doctoral Consortium Chair, The Tenth International Workshop on Mobile Computing Systems and Applications (HotMobile), ACM SIGMOBILE, 2009