FAHIM **KAWSAR**

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RESEARCH PROFILE

My research agenda is centred on Computational Behaviour Modelling. I am interested in system and algorithmic challenges in building multi-sensory computational systems to understand real-world human behaviour through modelling people-to-people, people-to-place, people-to-thing interactions. I borrow tenets from Social Psychology, learn from Behavioural Economics and apply Computer Science methods to drive my research in four application areas: Smart Home, Smart Enterprise, Urban City and Digital Lifestyle. At heart, I am an experimental computer scientist, and I aim at building end-to-end systems with real world deployment.

EMPLOYMENT

- 2013/03 - Current
  Research Director, Internet of Things Research
  Bell Laboratories, Nokia [Belgium, Ireland, and UK]

- 2010/11 - 2013/02
  Senior Research Scientist, Enabling Computing Research
  Bell Laboratories, Alcatel-Lucent, Belgium

- 2009/01 - 2011/07
  Post-Doctoral Research Associate, School of Computing
  Lancaster University, Lancaster, UK

- 2004/09 - 2006/09
  Researcher, Computer Architecture Department
  Nokia Research Center, Tokyo, Japan

- 2002/12 - 2004/03
  Lecturer, Department of Computer Science
  Islamic University of Technology, Dhaka, Bangladesh

EDUCATION

- 2006/04 - 2009/03
  Ph.D. Computer Science
  Waseda University, Tokyo, Japan
  Thesis: A Document based Framework for User Centric Smart Object Systems
  GPA: 4.00 / 4.00 (Highest Honors)

- 2004/09 - 2006/03
  Master of Engineering. Computer Science
  Waseda University, Tokyo, Japan
  Thesis: An Architecture for Sentient Artefact based Computing
  GPA: 4.00 / 4.00 (Highest Honors)

- 1999/01 - 2002/11
  Bachelor of Science. Computer Science
  Islamic University of Technology, Dhaka, Bangladesh
  GPA: 4.85 / 5.00 (1st Class 1st)

GRANTS[1]

- iMinds and the Flemish funding agency VLAIO : € 2.2 Million
  Mobile Sensing Services for Developing Geospatial IoT Applications
  Co-PI on a Joint Grant, 2016-2018

- EIT-ICT Labs : € 300K
  Travel Dashboard: Personalised Mobility to Urban Travellers
  Co-PI on a Joint Grant, 2013

- Microsoft Research Asia Research Grant: US$ 12,000
  Talent fostering program from Microsoft Research Asia.
  PI, 2007-2008

- Microsoft Research Japan Research Grant: US$ 15,000.
  Talent fostering program from Microsoft Research Japan.
  PI, 2006

- Monbukagakusho Scholarship, MEXT Japan : JP¥ 10,500,000
  Full Academic Tuition Waiver for 5 years of Post Graduate Studies
  2004-2009

AWARDS

2012 Best Paper Award, IEEE VL/HCC 2012

2011 Best Demo Award, Pervasive 2011

2007 Best Demo Award, UCS 2007

2006 Microsoft Research Asia Fellow

2006 Microsoft Grant for Outstanding Performance

2006 Highest Honors Student in Masters, Waseda University

2004 Japanese Government (MEXT) Scholarship

2002 Gold Medal For Highest Honors in Bachelor, IUT

1999 Bangladesh Talent Pool Scholarship for Bachelor Degree

1998 Gold Medal in Higher Secondary Examination

1996 Bangladesh Talent Pool Scholarship for Higher Secondary

1996 Gold Medal in Secondary School Examination

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[1] Bell Labs research is fully funded by the corporate body of Nokia (and in the past that of Alcatel-Lucent). As such, I was not required to acquire external research funding unless an external project is the only instrument for successful collaborations with complementary academic partners.

RESEARCH EXPERIENCE

As the Director of Internet of Things research at Nokia Bell Labs, I currently lead a team of 12 Senior and Principle Research Scientists across three locations - Antwerp, Belgium; Dublin, Ireland and Cambridge, UK. I list here the key research projects that I am leading currently as well as the important past projects I have worked on.

2015 - , Nokia Bell Labs
DeepX: A Software Accelerator for Embedded Deep Learning
The objective of this work is to bring bleeding-edge deep learning models to wearable and IoT devices. Applying a set of resource control algorithms, e.g., dynamic resource scaling, runtime model compression, etc, this project is culminated in the design of a general-purpose embedded inference engine for running deep models locally enabling smallest of smallest devices to make incredible leaps in understanding people and environment.

2014 - , Nokia Bell Labs
Quantified Enterprise
This project aims to uncover the hidden dynamics of modern enterprises by modelling people-people and people-place interactions. Through an end-to-end system that leverages wearable badges, and wireless network, various people and place metrics are gathered, modelled, and analysed to offer actionable insights. The system is deployed in multiple Bell Labs locations and was successfully used at WebSummit 2015.

2013 - , Nokia Bell Labs
Sensorless Sensing for Behaviour Modelling
This project explores the premise that we can learn and infer human behaviour (e.g., vital signs, physical activity, face-to-face interaction, personality, happiness etc.) by observing an individual's engagement with a wireless network. The project applies principled digital signal processing, radar theory and machine learning techniques to model human behaviour using MAC and PHY layer network signals acquired from existing wireless infrastructure.

2012 - 2013, Nokia Bell Labs
Behaviour Modelling with Mobile and Home Network Traces
This project explored to what extend meta-information gleaned through mobile and residential network traces can be leveraged to understand outdoor and in-home human activities. In collaboration with multiple Tier-1 network operators, this project applied information theoretic approach with well-grounded machine learning models to extract spatiotemporal human activities.

2009 - 2010, Lancaster University
Situated Glyphs: Activity Aware Micro Information Displays
This project explored a new design approach for building interactive information environments through micro information displays - situated in place and time. These displays are dynamic visual representations of activities and indicate when, where, which activities can or should take place in an environment. We designed and tested situated glyphs for hospitals and care facilities.

2006 - 2009, Waseda University
FedNet: A Software Framework for Smart Object Systems
This project culminated in my PhD dissertation explored the design space for building IoT applications. Taking a principled approach through a number of connected home applications, this work demonstrated that a document-centric RESTful architecture can effectively address major challenges inherent in IoT applications including heterogeneity, service unification, management, and extension.

TEACHING EXPERIENCE

2009/01 - 2011/07
School of Computing, Lancaster University
Guest Lectureship for Post Graduate Courses on
- Ubiquitous Computing
- Mobile Computing
- E-Business and Innovation

2002/12 - 2004/03
Computer Science Department, Islamic University of Technology
Lectureship for Under Graduate Courses on
- Object Oriented Programming
- Data Structure and Algorithms
- Human Computer Interaction

PUBLICATIONS

Books

[B.1]   Zili Shao and <u>Fahim Kawsar,</u> "Special issue: Design and optimisation for embedded and real-time computing systems and applications". Journal of Systems Architecture - Embedded Systems Design 57(6): 571-572 (2011).

Book Chapters

[BC.2]   Tatsuo Nakajima and <u>Fahim Kawsar</u>, "Designing Ambient and Personalised Displays to Encourage Healthier Lifestyles". Handbook of Ambient Assisted Living - Technology for Healthcare, Rehabilitation and Well-being, 2012 DOI: 10.3233/978-1-60750-837-3-389

[BC.1]   Kaori Fujinami and <u>Fahim Kawsar</u>, "Embedding Context-Awareness into a Daily Object for Improved Information Awareness: A Case Study Using a Mirror "; Handbook of Research on Ambient Intelligence and Smart Environments: Trends and Perspectives. May 2011.

Referred Journal Articles

[J.10]   Mohamed Ali Feki, <u>Fahim Kawsar</u>, Mathieu Boussard, and Lieven Trappeniers. "The Internet of Things: The Next Technological Revolution;". IEEE Computer, Volume: 46, Issue: 2, 2013

[J.9]   Gerd Kortuem, Fahim Kawsar, Daniel Fitton, and Vasughi Sundramoorthy, "Smart Objects as Building Blocks for the Internet of Things"; IEEE Internet Computing, Special Issue of Internet of Things, January/February 2010, pp: 30-37. DOI: 10.1109/MIC. 2009.143

[J.8]   Fahim Kawsar, Kaori Fujinami, Jong Hyuk Park, and Tatsuo Nakajima; "A Smart Object Centric Indoor Location Model for Future Ubiquitous and Grid Services". Journal of Internet Technology, Vol. 11, No. 1, 2010

[J.7]   Fahim Kawsar and Tatsuo Nakajima; "Design and Implementation of a Framework for Building Distributed Smart Object Systems"; Springer Journal of Super Computing. DOI: 10.1007/s11227-009-0323-4

[J.6]   Fahim Kawsar, Jong Hyuk Park, and Tatsuo Nakajima; "A Portable Toolkit for Supporting End-User Personalization and Control in Context-Aware Applications"; Springer Journal of Multimedia Tools and Application. DOI: 10.1007/s11042-009-0330-8.

[J.5]   Fahim Kawsar, Mostafa Al Masum Shaikh, Jong Hyuk Park, Mitsuru Ishizuka and Tatsuo Nakajima; "Augmenting User Interaction in a Smart Home Applying Common Sense Knowledge"; International Journal of Smart Home, Vol. 2, No. 4, October 2008.

[J.4]   Sheikh I. Ahamed, Farzana Rahman, Endadul Hoque, Fahim Kawsar, and Tatsuo Nakajima; "Secure and Efficient Tag Searching in RFID Systems using Serverless Search Protocol"; International Journal of Security and Its Applications, Vol.3, No.4, October 2008.

[J.3]   Fahim Kawsar, Kaori Fujinami and Tatsuo Nakajima, "Prottoy Middleware Platform for Smart Object Systems"; Special Issue on New Advances and Challenges in Smart Home, International Journal of Smart Home, Vol. 2, No. 3, July 2008.

[J.2]   Kaori Fujinami, Fahim Kawsar, and Tatsuo Nakajima, "A Context-Aware Display System augmenting a Mirror" IPSJ Journal, Issues: Vol. 49, No. 6, 2008.

[J.1]   Fahim Kawsar, Shariful Hasan Shaikot, Md. Shahriar Saikat, Md. Abdur Razzaque, and M. A. Mottalib, "An Efficient Token Based Algorithm in Distributed System for Mutual Exclusion"; Journal of Engineering and Technology, Volume. 2, No.2, pp. 39-44, July-December 2003.

Referred Conference Papers

[C.53]   Afra Mashhadi, Akhil Mathur, Marc Van den Broeck, Geert Vanderhulst, Marc Godon, and Fahim Kawsar, "Understanding the Impact of Personal Feedback on Face-to-Face Interactions in the Workplace", The 18th ACM International Conference on Multimodal Interaction (ICMI 2016), November 2016, Tokyo, Japan

[C.52]   Akhil Mathur, Nicholas D. Lane, and Fahim Kawsar, "Engagement-Aware Computing: Modelling User Engagement with Mobile Contexts", The 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2016), September 2016, Heidelberg, Germany

[C.51]   Afra Mashhadi, Utku Günay Acer, Aidan Boran, Philipp M. Scholl, Claudio Forlivesi, Geert Vanderhulst and Fahim Kawsar, "Exploring Space Syntax on Entrepreneurial Opportunities with Wi-Fi Analytics", The 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2016), September 2016, Heidelberg, Germany

[C.50]   Afra Mashhadi, Akhil Mathur, Marc Van den Broeck, Geert Vanderhulst, Marc Godon, and Fahim Kawsar, "A Case Study on Capturing and Visualising Face-to-Face Interactions in the Workplace", The 18th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI 2016), September 2016, Florence, Italy

[C.49]   Biyi Fang, Nicholas D. Lane, Mi Zhang, Aidan Boran and Fahim Kawsar, "BodyScan: A Wearable Device for Contact-less Radio-based Sensing of Body-related Activities", The 14th ACM Conference on Mobile Systems, Applications, and Services (MobiSys 2016), July 2016, Singapore

[C.48]   Alessandro Montanari, Afra Mashhadi, Akhil Mathur, and Fahim Kawsar, "Understanding the Privacy Design Space for Personal Connected Objects", The 30th British Human Computer Interaction Conference (British HCI 2016), July 11-15, 2016, Bournemouth, UK

[C.47]   Afra Mashhadi, Sourav Bhattacharya, and Fahim Kawsar, "Understanding The Impact of Geographical Context on the Subjective Well-Being of Urban Citizens", The 2nd International Conference on IoT in Urban Space (Urb-IoT 2016), May 24-25, 2016, Tokyo, Japan

[C.46]   Nicholas D. Lane, Sourav Bhattacharya, Petko Georgiev, Claudio Forlivesi, Lei Jiao, Lorena Qendro and Fahim Kawsar, "DeepX: A Software Accelerator for Low-Power Deep Learning Inference on Mobile Devices", The 15th International Conference on Information Processing in Sensor Networks (IPSN '16), 12- 14, April 2016, Vienna, Austria.

[C.45]   Biyi Fang, Nicholas D. Lane, Mi Zhang and Fahim Kawsar, "HeadScan: A Wearable System for Radio-based Sensing of Head and Mouth-related Activities ", The 15th International Conference on Information Processing in Sensor Networks (IPSN '16), 12-14, April 2016 , Vienna, Austria.

[C.44]   Geert Vanderhulst, Afra Mashhadi, Mina Dashti, and Fahim Kawsar, "Detecting Human Encounters from WiFi Radio Signals", 14th International conference on Mobile and Ubiquitous Multimedia (MUM 2015), Nov 2015, Linz, Austria.

[C.43]   Utku Acer, Aidan Boran, Claudio Forlivesi, Werner Liekens, Fernando Perez-cruz, and Fahim Kawsar, "Sensing WiFi Network for Personal IoT Analytics", 5th International Conference on Internet of Things (IoT 2015), October 2015 Seoul, South Korea.

[C.42]   Akhil Mathur, Marc Van den Broeck, Geert Vanderhulst, Afra Mashhadi and Fahim Kawsar, "Tiny Habits in the Giant Enterprise: Understanding the Dynamics of a Quantified Workplace;". The 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2015), September, 2015, Osaka, Japan

[C.41]   Utku Acer, Afra Mashhadi and Fahim Kawsar, "Energy Efficient Scheduling for Mobile Push Notifications". In 12th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 2015), Coimbra, Portugal, July 22-24, 2015

[C.40]   Esunly Medina, <u>Fahim Kawsar</u>, Roc Meseguera and Sergio F. Ochoa "Situated Micro Displays for Activity Aware Systems;". Human Computer Interaction 2014, Crete, Greece, 22-27 June 2014

[C.39]   Afra Mashhadi and <u>Fahim Kawsar,</u> "Human Data Interaction in IoT: The Ownership Aspect;". The IEEE World Forum on Internet of Things 2014 (WF-IoT 2014), Seoul, Korea, 6-8 March 2014

[C.38]   Geert Vanderhulst and <u>Fahim Kawsar,</u> "Preserving Privacy in Social City Networks via Small Cells". The 3rd IUI workshop on Interacting with Smart Objects (InterSO 2013), Haifa, Israel, February 24, 2014

[C.37]   <u>Fahim Kawsar</u>, and A. J. Brush. "Home Computing Unplugged: Why, Where and When People Use Different Connected Devices at Home". The 2013 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2013), September, 2013, Zurich, Switzerland.

[C.36]   Dimitri Schuurman, Bastiaan Baccarne, <u>Fahim Kawsar</u>, Constantijn Seys, Carina Veeckman, Lieven De Marez, and Pieter Ballon. "Living Labs as Quasi-experiments: Results from the Flemish LeYLab". The XXIV ISPIM Conference - Innovating in Global Markets: Challenges for Sustainable Growth. June, 2013 Helsinki, Finland.

[C.35]   Fabio Pianese, Xueli An, <u>Fahim Kawsar</u>, and Hiroki Ishizuka. "Discovering and Predicting User Routines by Differential Analysis of Social Network Traces". 14th International Symposium on a World of Wireless, Mobile and Multimedia Networks (IEEE WoWMoM 2013), Madrid, Spain, June 2013

[C.34]   Jo Vermeulen, <u>Fahim Kawsar</u>, Adalberto Simeone, Gerd Kortuem, Kris Luyten and Karin Coninx "Informing the Design of Situated Glyphs for a Care Facility ;. 2012 IEEE Symposium on Visual Languages and Human-Centric Computing, Innsbruck, Austria, September 30 - October 4, 2012.

[C.33]   <u>Fahim Kawsar</u>, Jo Vermeulen, Kevin Smith, Kris Luyten and Gerd Kortuem, "Exploring the Design Space for Situated Glyphs to Support Dynamic Work Environments"; The Ninth International Conference on Pervasive Computing (Pervasive 2011), San Francisco, CA, USA. June 12-15, 2011

[C.32]   Geert Vanderhulst <u>Fahim Kawsar,</u> Johan Criel and Lieven Trappeniers "Prototyping Smart Objects for the Mass.". 13th IEEE International Conference on High Performance Computing & Communication, HPCC 2011, Banff, Alberta, Canada, September 2-4, 2011.

[C.31]   Johan Criel, Marjan Geerts, Laurence Claeys and <u>Fahim Kawsar,</u> "Empowering Elderly End-Users for Ambient Programming: The Tangible Way "; The 6th International Conference on Grid and Pervasive Computing (GPC 2011), Oulu, Finland, May 11-13, 2011.

[C.30]   <u>Fahim Kawsar</u>, Gerd Kortuem and Bashar Altakrouri, "Supporting Interaction with the Internet of Things across Objects, Time and Space "; Internet of Things 2010 Conference (IoT-2010), Nov 29 - Dec 1, Tokyo, Japan.

[C.29]   Gerd Kortuem and <u>Fahim Kawsar,</u> " Market-based User Innovation for the Internet of Things "; Internet of Things 2010 Conference (IoT-2010) Nov 29 - Dec 1, Tokyo, Japan.

[C.28]   <u>Fahim Kawsar</u>, Enrico Rukzio, and Gerd Korutem; "An Explorative Comparison of Magic Lens and Personal Projection for Interacting with Smart Objects"; 12th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI 2010), Lisboa, Portugal September 7th-10th, 2010

[C.27]   Gerd Kortuem, <u>Fahim Kawsar,</u> and Bashar Altakrouri; "Flow Driven Ambient Guidance"; Eighth Annual IEEE International Conference on Pervasive Computing and Communications (PerCom 2010), Mannheim, Germany March 29 - April 2, 2010

[C.26]   <u>Fahim Kawsar</u>, and Tatsuo Nakajima; "A Document centric Framework for Building Distributed Smart Object Systems"; 12th IEEE International Symposium on Object/component/service-oriented Real-time distributed Computing (ISORC 2009), Tokyo, Japan, March 17-20, 2009.

[C.25]   <u>Fahim Kawsar</u>, Tatsuo Nakajima and Jong Hyuk Park, "A Document based Framework for Smart Object Systems"; The 2nd International Conference on Future Generation Communication and Networking (FGCN 2008), Horizon Resort, Sanya, Hainan Island, China, December 13-15, 2008.

[C.24]   <u>Fahim Kawsar</u>, Kaori Fujinami, and Tatsuo Nakajima, "Deploy Spontaneously: Supporting End-Users in Building and Enhancing a Smart Home"; The Tenth International Conference on Ubiquitous Computing (UbiComp 2008), Seoul, South Korea, September 21 - 24, 2008.

[C.23]   <u>Fahim Kawsar,</u> Kaori Fujinami, and Tatsuo Nakajima, "A Document Centric Approach for Supporting Incremental Deployment of Pervasive Applications"; The Fifth Annual International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 2008), Dublin, Ireland, July 21-25, 2008.

[C.22]   <u>Fahim Kawsar,</u> Mostafa Al Masum Shaikh, Tatsuo Nakajima and Sheikh I. Ahamed; "Applying Commonsense to Augment User Interaction in an Intelligent Environment"; The 4th IET International Conference on Intelligent Environment (IE08), Seattle, USA, July 2008.

[C.21]   Sheikh I. Ahamed, Farzana Rahman, Endadul Hoque, <u>Fahim Kawsar,</u> Tatsuo Nakajima; "YA-SRAP: Yet Another Serverless RFID Authentication Protocol"; The 4th IET International Conference on Intelligent Environment (IE08), Seattle, USA, July 2008.

[C.20]   Kaori Fujinami and <u>Fahim Kawsar,</u> "An Experience with Augmenting a Mirror as a Personal Ambient Display"; In Proceedings of the 8th Asia-Pacific Conference on Computer Human Interaction (APCHI2008), Seoul, Korea, July 2008.

[C.19]   Sheikh I. Ahamed, Farzana Rahman, Endadul Hoque, <u>Fahim Kawsar,</u> Tatsuo Nakajima; "S^{3}PR: Secure Serverless Search Protocols for RFID"; In the Proceedings of Second IEEE International Conference on Information Security and Assurance (ISA 2008), April 24-26, 2008, Busan, Korea.

[C.18]   <u>Fahim Kawsar</u>, Tatsuo Nakajima, "Persona: A Portable Tool for Augmenting Proactive Applications with Multimodal Personalization Support"; Proceedings of the 6h International Conference on Mobile and Ubiquitous Multimedia (MUM 2007), Oulu, Finland, December 2007.

[C.17]   <u>Fahim Kawsar</u>, Kaori Fujinami, Tatsuo Nakajima, "Approaching Intelligent Environment through Sentient Artefacts", Proceedings of the 10th International Conference on Computer and Information Technology (ICCIT 2007), Dhaka, Bangladesh, December 2007.

[C.16]   Simo Hosio, <u>Fahim Kawsar</u>, Jukaa Riekki, Tatsuo Nakajima, "DroPicks: A Tool for Collaborative Content Sharing Exploiting Everyday Artefacts", Proceedings of the Fourth International Symposium on Ubiquitous Computing Systems (UCS 2007), Akihabara, Tokyo, Japan, November 26-28, 2007.

[C.15]   <u>Fahim Kawsar</u>, Kaori Fujinami, Tatsuo Nakajima, "Experiences with Building Intelligent Environment through Sentient Artefacts", Proceedings of the 3rd IET International Conference on Intelligent Environment (IE07), Ulm, Germany, September 24-26, 2007.

[C.14]   <u>Fahim Kawsar</u>, Kaori Fujinami, Susanna Pirttikangas, Tatsuo Nakajima, "RoonRoon: A Wearable Teddy as Social Interface for Contextual Notification", Proceedings of the International Conference and Exhibition on Next Generation Mobile Applications, Services and Technologies, Cardiff, Wales, UK. September 12-14, 2007.

[C.13]   <u>Fahim Kawsar</u>, Kaori Fujinami, Tatsuo Nakajima, "A Lightweight Indoor Location Model for Sentient Artefacts using Sentient Artefacts"; Proceedings of the 22nd Annual ACM Symposium on Applied Computing (SAC), Seoul, Korea, March 11 - 15, 2007.

[C.12]   <u>Fahim Kawsar</u>, Kaori Fujinami, Tatsuo Nakajima, "Exploiting Passive Advantages of Sentient Artefacts"; Proceedings of the 2006 International Symposium on Ubiquitous Computing Systems (UCS 2006) COEX, Seoul, Korea October 11-13, 2006, Lecture Notes in Computer Science (LNCS), Volume 4239 / 2006, pp. 271 – 284.

[C.11]   <u>Fahim Kawsar</u>, Kaori Fujinami, Tatsuo Nakajima, "A Lightweight Location System for Sentient Artefacts"; Proceedings of the System for Programming and Applications (SPA) 2006, Shiobara, Japan, March 2006.

[C.10]   <u>Fahim Kawsar</u>, Kaori Fujinami, Tatsuo Nakajima, "Prottoy: A Middleware for Sentient Environment"; Proceeding of the Embedded and Ubiquitous Computing: International Conference EUC 2005, Nagasaki, Japan, December 6-9, 2005. Lecture Notes in Computer Science (LNCS) Volume 3824 / 2005, pp. 1165 – 1176.

[C.9]   <u>Fahim Kawsar</u>, Kaori Fujinami, Tatsuo Nakajima, "Augmenting everyday life with sentient artefacts"; Proceedings of the 2005 joint conference on Smart objects and ambient intelligence: innovative context-aware services: usages and technologies SoC-EUSAI '05, Grenoble, France, October 2005, ACM Press, pp: 141 – 146.

[C.8]   <u>Fahim Kawsar</u>, Kaori Fujinami, Tatsuo Nakajima, "Design and Implementation of a Software Infrastructure for Integrating Sentient Artefact"; Proceedings of the Second Annual International Conference on Mobile and Ubiquitous Systems: Networking and Services, MobiQuitous 2005, San Diego, USA, July 2005, IEEE Computer Society, pp: 510 – 512.

[C.7]   Kaori Fujinami, <u>Fahim Kawsar</u>, Tatsuo Nakajima, "AwareMirror: A Personalized Display using a Mirror"; Proceedings of the 3rd International Conference on Pervasive Computing (Pervasive 2005), Munich, Germany, May 2005. Lecture Notes in Computer Science (LNCS) Volume 3468 / 2005, pp. 315-332.

[C.6]   <u>Fahim Kawsar</u>, Md. Shahriar Saikat and Shariful Hasan Shaikot, "IUT Job Cracker: Design and Implementation of a Dynamic Job Scheduler for Distributed Computation"; Proceedings of the 6th International Conference on Computer and Information Technology (ICCIT 2003), Dhaka, Bangladesh, December 2003.

[C.5]   Shariful Hasan Shaikot, <u>Fahim Kawsar</u> and Md. Shahriar Saikat, "Bengali Digit Recognition System using 3-layer Back Propagation Neural Network"; Proceedings of the 6th International Conference on Computer and Information Technology (ICCIT 2003), pp. 327-331, Dhaka, Bangladesh, December 2003.

[C.4]   Shariful Hasan Shaikot, <u>Fahim Kawsar</u> and Md. Shahariar Saikat, "Transparent Process Migration in Integrated Distributed Computing Environment (IDCE)"; Proceedings of the 6th International Conference on Computer and Information Technology (ICCIT 2003), pp. 496-500, Dhaka, Bangladesh, December 2003.

[C.3]   Asif Ahmed Anik and <u>Fahim Kawsar</u>, "An Optimal Dependable Computing Grid for Ubiquitous Computing Infrastructure"; Proceedings of the 6th International Conference on Computer and Information Technology (ICCIT 2003), pp. 487-491, Dhaka, Bangladesh, December 2003.

[C.2]   <u>Fahim Kawsar</u>, Shariful Hasan Shaikot, Md. Shahariar Saikat, Md. Abdur Razzaque and M.A. Mottalib, "An Efficient Token Based Algorithm for Mutual Exclusion in Distributed System"; Proceedings of the 5th International Conference on Computer and Information Technology (ICCIT 2002), pp. 93-96, Dhaka, Bangladesh, December 2002.

[C.1]   <u>Fahim Kawsar</u>, Shariful Hasan Shaikot, Md. Shahariar Saikat, Md. Abdur Razzaque and M.A. Mottalib; "An Efficient Dynamic Scheduling Algorithm in Distributed System"; Proceedings of the 5th International Conference on Computer and Information Technology (ICCIT 2002), pp. 97-100, Dhaka, Bangladesh, December 2002.

Referred Conference Short Papers, Posters, Demos and Workshop Papers

[c.38]   Valentin Radu, Nicholas D. Lane, Sourav Bhattacharya, Cecilia Mascolo, Mahesh K. Marina and <u>Fahim Kawsar</u>, "Towards Multimodal Deep Learning for Activity Recognition on Mobile Devices", The 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2016) , September 2016, Heidelberg, Germany

[c.37]   Nicholas D. Lane, Sourav Bhattacharya, Petko Georgiev, Claudio Forlivesi, and <u>Fahim Kawsar</u>, "Accelerated Deep Learning Inference for Embedded and Wearable Devices using DeepX", The 14th ACM Conference on Mobile Systems, Applications, and Services (MobiSys 2016), July 2016, Singapore.

[c.36]   Biyi Fang, Nicholas D. Lane, Mi Zhang, Aidan Boran and <u>Fahim Kawsar</u>, "Towards Radio-based Sensing on Wearables", The 14th ACM Conference on Mobile Systems, Applications, and Services (MobiSys 2016), July 2016 , Singapore.

[c.35]   Utku Günay Acer, Geert Vanderhulst, Afra Mashhadi, Aidan Boran, Claudio Forlivesi, Philipp M. Scholl, and <u>Fahim Kawsar</u>, "Capturing Personal and Crowd Behavior with Wi-Fi Analytics", In Physical Analytics Workshop @ The 14th ACM Conference on Mobile Systems, Applications, and Services (MobiSys 2016), July 2016, Singapore

[c.34]   Akhil Mathur and <u>Fahim Kawsar</u>, "The Need to Account for Geographical Diversities in Mobile Data Research", In MobiData Workshop @ The 14th ACM Conference on Mobile Systems, Applications, and Services (MobiSys 2016), July 2016, Singapore

[c.33]   Nicholas D. Lane, Sourav Bhattacharya, Petko Georgiev, Claudio Forlivesi, and Fahim Kawsar, "DeepX: A Software Accelerator for Embedded Deep Learning", The 15th International Conference on Information Processing in Sensor Networks (IPSN '16), 12- 14, April 2016, Vienna, Austria.

[c.32]   Nicholas D. Lane, Sourav Bhattacharya, Petko Georgiev, Claudio Forlivesi and Fahim Kawsar, "DeepX: A Software Accelerator for Squeezing Deep Learning onto Wearables, Phones and Things", The 17th Workshop on Mobile Computing Systems and Applications (ACM HotMobile 2016), 23-24 February, 2016, Florida, USA.

[c.31]   Biyi Fang, Nicholas D. Lane, Mi Zhang and Fahim Kawsar, "Towards Radio-based Activity Sensing on Wearables ", The 17th Workshop on Mobile Computing Systems and Applications (ACM HotMobile 2016), 23-24 February, 2016, Florida, USA.

[c.30]   Nicholas D. Lane and Sourav Bhattacharya, Petko Georgiev, Claudio Forlivesi and Fahim Kawsar, "Understanding the Resource Bottlenecks of Deep Learning on Wearables, Smartphones and IoT Devices", In IoT-App Workshop @ The 13th ACM Conference on Embedded Networked Sensor Systems (SenSys 2015), Nov 2015, Seoul, Korea.

[c.29]   Akhil Mathur, Marc Van den Broeck, Geert Vanderhulst, Afra Mashhadi and Fahim Kawsar, "Quantified Workplace: Opportunities and Challenges". In Physical Analytics Workshop @ The Thirteenth International Conference on Mobile Systems, Applications, and Services (MobiSys 2015), Florence, Italy, May 20-22, 2015.

[c.28]   Afra Mashhadi, Geert Vanderhulst, Utku Acer, and Fahim Kawsar, "An Autonomous Reputation Framework for Physical Locations based on WiFi Signals". In Physical Analytics Workshop @ The Thirteenth International Conference on Mobile Systems, Applications, and Services (MobiSys 2015), Florence, Italy, May 20-22, 2015.

[c.27]   Geert Vanderhulst, Mina Dashti, Afra Mashhadi and Fahim Kawsar, "CrumblR: Enabling Proxemic Services through Opportunistic Location Sharing;". Work-In-Progress, 2015 International Conference on Pervasive Computing and Communication (PerCom 2015), Missouri, USA, March 23-27, 2015.

[c.26]   Afra Mashhadi, Akhil Mathur and Fahim Kawsar, "The Myth of Subtle Notifications;". Poster Proceedings, The 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2014), September, 2014, Seattle, USA.

[c.25]   Geert Vanderhulst, Marc Van den Broeck and Fahim Kawsar, "Exploring the Design Space for Geo-Fenced Connected Devices and Services at Home". UPSIDE Workshop @ The 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2014), September, 2014, Seattle, USA.

[c.24]   Ming Ki Chong, Fahim Kawsar and Hans Gellersen, "Spatial Co-Location for Device Association: The Connected Object Way". In: NOMe-IoT 2011: International Workshop on Networking and Object Memories in the Internet of Things @ UbiComp 2011, 18 Sep 2011, Beijing, China.

[c.23]   Johan Criel, Geert Vanderhulst, Fahim Kawsar and Lieven Trappeniers, "A Co-Creation Platform for Creative Engagement of End-Users in a Connected Object Space." In: NOMe-IoT 2011: International Workshop on Networking and Object Memories in the Internet of Things @ UbiComp 2011, 18 Sep 2011, Beijing, China.

[c.22]   Gerd Kortuem, Fahim Kawsar, Phil Scholl, Michael Beigl, Adalberto L. Simeone, and Kevin Smith, "A Miniaturized Display Network for Situated Glyphs "; Demo Paper at The Ninth International Conference on Pervasive Computing (Pervasive 2011), San Francisco, CA, USA. June 12-15, 2011 [Best Demo Award]

[c.21]   Ming-Ki Chong and Fahim Kawsar, "Improving paper books: searchable books "; PaperComp 2010: 1st International Workshop on Paper Computing, in conjunction with UbiComp 2010, The 12th International Conference on Ubiquitous Computing (UbiComp 2010), September 26-29, 2010.

[c.20]   Fahim Kawsar, Gerd Kortuem, and Bashar Altakrouri, "Designing Pervasive Interactions for Ambient Guidance with Situated Flows", Fourth International Workshop on Human Aspects in Ambient Intelligence, in collaboration with the 2010 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT 2010), Toronto, Canada, August 31- September 3, 2010

[c.19]   Gerd Kortuem and Fahim Kawsar, "User Innovation for the Internet of Things."; In the workshop on " What can the Internet of Things do for the citizen?" in conjunction with the Eighth International Conference on Pervasive Computing (Pervasive 2010), Helsinki, Finland, 17 - 20 May 2010

[c.18]   Bashar Altakrouri, Fahim Kawsar, and Gerd Kortuem, "Spin&Swing : Spatial Interaction with Orientation Aware Devices"; Demo in the Eighth International Conference on Pervasive Computing (Pervasive 2010), Helsinki, Finland, 17 - 20 May 2010

[c.17]   Dan Fitton, Fahim Kawsar, and Gerd Kortuem, "Exploring the Application of Smart Objects in the Workplace" Demo Paper, the 11th International Conference on Ubiquitous Computing (UbiComp 2009), Orlando, USA, September 30- October 03, 2009

[c.16]   Fahim Kawsar, and Gerd Kortuem; "Designing Interactions for Smart Objects with Flows"; 3rd International Workshop on Design and Integration Principles for Smart Objects (DIPSO 2009), in conjunction with UbiComp2009), Orlando, USA, September 30- October 03, 2009

[c.15]   Dan Fitton, Fahim Kawsar, and Gerd Kortuem, "Exploring The Design of a Memory Model for Smart Objects"; 1st International Workshop on Digital Object Memories (DOMe 2009), In conjunction with The 5th International Conference on Intelligent Environment (IE09), Barcelona, Spain, July 2009

[c.14]   Fahim Kawsar, Fernando Lyardet, Tatsuo Nakajima, "Three Challenges for Future Smart Object Systems", 2nd International Workshop on Smart Products: Building Blocks of Ambient Intelligence (AmI-Block'08), in conjunction with AmI 2008, the 2008 European Conference of Ambient Intelligence, Nurnberg, Germany. November 19-22, 2008.

[c.13]   Fahim Kawsar, Michael Beigl, Kaori Fujinami, Gregor Schiele, Tsutomu Terada, Susanna Pirttikangas, Jin Nakazawa, "Design and Integration Principles for Smart Objects" Workshop Overview Paper, 2nd International Workshop on Design and Integration Principles for Smart Objects (DIPSO 2008), in conjunction with UbiComp2008, the 10th International Conference on Ubiquitous Computing (UbiComp 2008), Seoul, Korea September 21-24, 2008.

[c.12] Fahim Kawsar, and Tatsuo Nakajima, "End User Tool for Deploying Smart Object Systems"; Demo Paper, The Fifth Annual International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 2008), Dublin, Ireland, July 21-25, 2008.

[c.11] Fahim Kawsar, Mostafa Al Masum Shaikh and Ishizuka Mitsuru, "Text Beautifier: An Affective-Text Tool to Tailor Written Text"; In Extended Abstract Proceedings of the Twenty-Third AAAI Conference on Artificial Intelligence (AAAI 08), Chicago, Illinois, USA, July 2008.

[c.10] Teruhide Kusaka, Kimura Hiroaki, Fahim Kawsar, Tatsuo Nakajima, "A Visually Attractive Cushion as Multipurpose Controller in Living Spaces"; Demo Paper, The Fourth International Symposium on Ubiquitous Computing Systems (UCS 2007) Akihabara, Tokyo, Japan, November 26-28, 2007. [Best Demo Award]

[c.9] Teruhide Kusaka, Kimura Hiroaki, Fahim Kawsar, Tatsuo Nakajima, "A Visually Attractive Interaction Device Suitable for Living Spaces"; Adj. Proceedings of The 20th ACM Symposium on User Interface Software and Technology, UIST 2007, Newport, RI, USA, October 7-10, 2007

[c.8] Simo Hosio, Fahim Kawsar, Jukaa Riekki, Tatsuo Nakajima, "Utilizing Everyday Artefacts for Content Sharing"; Adj. Proceedings of the 9th International Conference on Ubiquitous Computing (UbiComp 2007), Innsbruck Austria, September 16-19, 2007.

[c.7] Fahim Kawsar, Tsutomu Terada, Gerd Kortuem, Kaori Fujinami, Susanna Pirttikangas, Jin Nakazawa, "Design and Integration Principles for Smart Objects"; Proceedings of the 1st International Workshop on Design and Integration Principles for Smart Objects (DIPSO 2007), in conjunction with UbiComp2007, the 9th International Conference on Ubiquitous Computing (UbiComp 2007), Innsbruck Austria, September 16-19, 2007.

[c.6] Fahim Kawsar, Tatsuo Nakajima. "Bringing Augmented Artefacts out of the Laboratory", Proceedings of the 1st International Workshop on Design and Integration Principles for Smart Objects (DIPSO 2007), in conjunction with UbiComp 2007, the 9th International Conference on Ubiquitous Computing (UbiComp 2007), Innsbruck Austria, September 16-19, 2007

[c.5] Fahim Kawsar, Kaori Fujinami, Tatsuo Nakajima, "What Makes a Good Pervasive Middleware?"; Adj. Proceedings of the 8th International Conference on Ubiquitous Computing (UbiComp 2006), Orange County, USA, September 2006.

[c.4] Fahim Kawsar, Kaori Fujinami, Susanna Pirttikangas, Tatsuo Nakajima, "Personalization and Context Aware Services: A Middleware Perspective"; Proceedings of the 2nd International Workshop on Personalized Context Modeling and Management for UbiComp Applications. A Workshop in conjunction with UbiComp 2006, the 8th International Conference on Ubiquitous Computing (UbiComp 2006), Orange County, USA, September 2006.

[c.3] Fahim Kawsar, Kaori Fujinami, Tatsuo Nakajima, "Experiences with Developing Context-Aware Applications with Augmented Artefacts"; Proceedings of the 1st International Workshop on Personalized Context Modeling and Management for UbiComp Applications. A Workshop in conjunction with UbiComp 2005, the 7th International Conference on Ubiquitous Computing (UbiComp 2005), Tokyo, Japan, September 2005, pp. 111-120.

[c.2] Kaori Fujinami, Kanako Okada, Fahim Kawsar, Tatsuo Nakajima, "Living with Sentient Artefacts"; Video Proceedings of the 7th International Conference on Ubiquitous Computing (UbiComp 2005), Tokyo Japan, September 2005

[c.1] Fahim Kawsar, Kaori Fujinami, Tatsuo Nakajima, "Prottoy: A Context Aware Application Framework"; Proceedings of the 2nd International Symposium on Ubiquitous Computing Systems, UCS 2004, Tokyo, Japan, November 2004.

Theses

[T.1] Fahim Kawsar, "A Document based Framework for User Centric Smart Object Systems"; Ph.D. Dissertation, Department of Computer Science, Waseda University, Tokyo, Japan, February, 2009.

[T.2] Fahim Kawsar, "An Architecture for Sentient Artefact based Computing" Master Thesis, Department of Computer Science, Waseda University, Tokyo, Japan, March, 2006.

PATENTS

[P.1] Methods and System to Minimise Runtime Resource Usage of Deep Neural Networks (Pending) - with Nic Lane, Sourav Bhattacharaya, and Claudio Forlivesi

[P.2] System and Method for Personalised Execution of Neural Network (Pending) - with Nic Lane, Sourav Bhattacharaya, and Claudio Forlivesi

[P.3] Execution-time System for Deep Learning Models to Lower the Resources Consumed Under Multiple Model Scenarios (Pending) - with Nic Lane, Sourav Bhattacharaya, and Claudio Forlivesi

[P.4] Engagement-Aware Content Delivery in Future Communication Systems – with Akhil Mathur

[P.5] A System and Method for Scheduling Background Synchronisation of Application Data (Pending) - with Utku Acer

[P.6] Cell-assisted GNSS (Pending) - with Geert Vanderhulst

[P.7] Privacy-Aware Personal Data Store (Pending) - with Alessandro Montanari, Afra Mashhadi and Aidan Boran

[P.8] Method and System for Wireless Readout of Sensor Data (Pending) - with Werner Likens, Jourik De Loof, and Utku Acer

[P.9] User Tracking (Pending) - with Afra Mashhadi and Geert Vanderhulst

[P.10] Method for Generating a Reputation Measure, An Access Point, User Equipment And A Computer Program Product (Pending) - with Afra Mashhadi and Geert Vanderhulst

[P.11] A Wireless Device with Location-Based Probing (Pending) - with Geert Vanderhulst and Afra Mashhadi

[P.12] Distributed and Mobile Virtual Fences (Pending) - with Marc Van den Broeck, Mohamed Ali Feki and Geert Vanderhulst

[P.13]   Wearable Display for Personal Computing (Pending) - with Utku Acer, Afra Mashhadi and Marc Van den Broeck
[P.14]   Access Control of Geo-Fenced Services by Co-located Witnesses (Pending) - with Geert Vanderhulst, Marc Van den Broeck and Mohamed Ali Feki
[P.15]   Immediate User Authentication Feedback to External Devices (Pending) - with Geert Vanderhulst, Marc Van den Broeck, Akhil Mathur and Mohamed Ali Feki
[P.16]   Method for Detecting Temporal Patterns In Network Traffic (Pending) - with Claudio Forlivesi
[P.17]   Method for Priority Scheduling of Notification And Ad Messages For Efficient Network Communication (Pending) - with Afra Mashhadi, Utku Acer and Claudio Forlivesi
[P.18]   System and Apparatus for Controlling Home Appliances Using Any (Appliance) Surface And Hand (Or Finger) Gestures (Pending) - with Geert Vanderhulst, Marc Van den Broeck, Akhil Mathur and Mohamed Ali Feki
[P.19]   System and Method to Filter Privacy-Sensitive Information Out of the Network (Pending) - with Bart Theeten
[P.20]   Method for Exploiting Multiple Sources of User Communication Trails in Programmable Devices (Pending) - with Fabio Pianese and Xueli An

KEYNOTES, FEATURED AND INVITED TALKS

- Featured Talk, IoT 3.0 : Connected Living in an Everything Digital World, Moscow Urban Forum, Moscow, Russia, July 2016.
- Invited Talk, Physical Analytics with Sensorless Sensing , Big Data Workshop, Shanghai, China, July 2016.
- Featured Talk, IoT 3.0 : Connected Living in an Everything Digital World, TM Forum Live 2016, Nice, France, May 2016.
- Keynote, The Story of Happy Brussels, Brussels Smart City 2016, Brussels, Belgium, May 2016.
- Invited Talk, Physical Analytics with Sensorless Sensing, Waseda University, Tokyo, Japan, May 2016.
- Invited Talk, Network Driven Behaviour Modelling for a Connected World, KU Leuven, Leuven, Belgium, April 2016.
- Keynote, Network Driven Behaviour Modelling for a Connected World, TopConf 2015, Tallinn, Estonia, November 2015.
- Keynote, Network Driven Behaviour Modelling for Designing User Centred IoT Services, Celtic Plus Day 2015, Antwerp, Belgium, October 2015.
- Keynote, Network Driven Behaviour Modelling for Designing User Centred IoT Services, S-Cube Conference 2015, Rome, Italy, October 2015.
- Keynote, Network Driven Behaviour Modelling for Designing User Cantered IoT Services, SAI 2015, London, UK, July 2015.
- Keynote, Quantified Enterprise: Redefining Future Workplace Experience, MobiQuitous 2015, Coimbra, Portugal, July 2015.
- Featured Talk, Network Driven Behaviour Modelling for Designing User Cantered IoT Services, M2M Forum, Milan Disruptive Week, Milan, Italy, May 2015.
- Invited Talk, Physical Analytics with Sensorless Sensing, Hasselt University, Hasselt, Belgium, April 2015.
- Invited Talk, Physical Analytics with Sensorless Sensing, MediaLab, Amsterdam, Netherlands, April 2015.
- Keynote, Network Driven Behaviour Modelling for a Sustainable Connected World, IoT 360, Rome, Italy October 2014.
- Invited Talk, Network Driven Behaviour Modelling for a Sustainable Connected World, University of Trento & CreateNet, Trento, Italy. September 2014.
- Invited Talk, Physical Analytics with Sensorless Sensing, Umm-Al-Qura University. Makkah, Saudi Arabia, July 2014.
- Keynote, Network Driven Behaviour Modelling for a Sustainable Connected World, GreenTouch Workshop, Brussels, Belgium, June 2014.
- Invited Talk, Behaviour Modelling with Opportunistic Analytics, ICTF 2014, Poznan, Poland, May 2014.
- Keynote, Behaviour Modelling with Opportunistic Analytics, DSP Valley Industry Summit, 2013, Machelen, Belgium, December 2013.
- Keynote, Designing Interaction for the Internet of Things, Leuven HCI Seminar Leuven, Belgium, December 2013.
- Invited Talk, The Story of London: Understanding Urban Dynamics with Differential Trace Analysis, Bell Labs Open Day 2013, October 2013
- Featured Talk, The Story of London: Understanding Urban Dynamics with Differential Trace Analysis, ICTF 2013, Sarajevo, Bosnia, May 2013
- Keynote, Modelling Human Activity with Opportunistic Analytics, EU Leadership Forum 2012, Brussels, Belgium, December 2012
- Featured Talk, The Story of London, Re.Work Smart City Summit, London, UK, December, 2012
- Featured Talk, Modelling Human Activity with Opportunistic Analytics, iMinds Creative Media Day 2012, Gent, Belgium, October 2012

PRESS AND MEDIA COVERAGE

- MSU Today, May 2016, Sensorless Sensing Project: "Wearable Technology could Help Detect Health Risks, Depression"
  http://msutoday.msu.edu/news/2016/wearable-technology-could-help-detect-health-risks-depression/
- MedGadget, May 2016, Sensorless Sensing Project: "HeadScan Keeps Your Jaw In Radar View"
  http://www.medgadget.com/2016/05/headscan-keeps-jaw-radar-view.html

- Stanford Medicine, May 2016, Sensorless Sensing Project: "Engineers develop new type of wearable device"
  http://scopeblog.stanford.edu/2016/05/25/engineers-develop-new-type-of-wearable-device/
- ReadWrite, May 2016, Sensorless Sensing Project: "Can this new wearable detect depression?"
  http://readwrite.com/2016/05/23/health-wearable-monitors-patients-depression-ht4/
- International Innovations, January 2016, "UK Internet of Things now better connected with new research hub"
  http://www.internationalinnovation.com/uk-internet-things-now-better-connected-new-research-hub/
- International Innovations, November 2015, "A new way of things"
  http://www.internationalinnovation.com/a-new-way-of-things/
- International Innovations, October 2015, "Connecting humans and computers"
  http://www.internationalinnovation.com/connecting-humans-and-computers/
- Amsterdam Creative Industries, October 2015, "Bell Labs Brengt Internationale Onderzoeksexpertise Naar Labs En Knowledge Mile (in Dutch)"
  http://www.amsterdamcreativeindustries.com/nieuws/bell-labs-brengt-internationale-onderzoeksexpertise-naar-labs-en-knowledge-mile
- International Innovations, September 2015, "The Future of Communication"
  http://www.internationalinnovation.com/science-and-information-conference-2015/
- Science Guide, March 2015, " Ugly duckling becomes swan knowledge (in Dutch)"
  http://www.scienceguide.nl/201503/lelijk-eendje-wordt-kenniszwaan.aspx
- Amsterdam Creative Industries, February 2015, "Bell Labs sluit aan bij Knowledge Mile Amsterdam coalitie (in Dutch)"
  http://www.amsterdamcreativeindustries.com/nieuws/leverancier-van-nobelprijswinnaars-kiest-voor-wibautstraat
- Le Soir, Novembre 2014, "Comme si vous étiez au stade grâce à votre tablette (in French)"
  http://www.lesoir.be/710772/article/economie/2014-11-18/comme-si-vous-etiez-au-stade-grace-votre-tablette

SCHOLARLY SERVICES

Review Board Membership

- Expert Panel – Horizon 2020
- Expert Project Reviewer - Horizon 2020 [Currently in-charge of 2 Projects]

PhD Examination Committee

- Zack Zhi Zhu. "Modelling and Recognizing Behavior in Urban Environments" – ETH Zürich, Dec 2015

Guest Editorship

- Special Issue on "Internet of Things" of the IEEE Computer Magazine.
- Special Issue on "Embedded and Real-Time Computing Systems and Applications" of the Journal of Systems Architecture: Embedded Software Design (Elsevier).
- Special Issue on "Ubiquitous Communication and Broadcasting" of International Journal of Communication Systems (WILEY).
- Special Issue on Smart Object Systems of International Journal of Multimedia and Ubiquitous Engineering (IJMUE).

Organising Committee Membership

- Steering Chair, International Conference Series on IoT in Urban Space (Urb-IoT)
- General Chair, The 8th International Conference on Mobile Computing, Applications and Services (MobiCASE 2016)
- General Chair, The First International Conference on IoT in Urban Space (Urb-IoT 2014)
- General Co-Chair, The Ninth International Conference on Networked Sensing Systems (INSS 2012)
- Program Co-Chair, The Eleventh International ICST Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 2014)
- Program Co-Chair, The First EAI International Conference on Cloud, Networking for IoT systems (CN4IoT 2015)
- Program Chair, IEICE Information and Communication Technology Forum 2014
- Program Co-Chair, The Eighth International Conference on Broadband and Wireless Computing, Communication and Applications (BWCCA 2013)
- Program Co-Chair, The Fifth International Symposium on Smart Home (SH 2010)
- Program Co-Chair, Ubiquitous Computing Track, The 15th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA 2009).
- Program Co-Chair, Pervasive Computing, The Fifth International Conference on Intelligent Environment (IE 2009).
- Workshop Co-Chair, The Third International Workshop on Physical Analytics (WPA 2016)
- Workshop Co-Chair, The First International Workshop on Quantified Workplace (QW 2016)

- Workshop Chair, The Tenth International Conference on Pervasive Computing (Pervasive 2012)
- Workshop Co-Chair, International Workshop on Intelligibility and Control in Pervasive Computing Environment (Pervasive Intelligibility 2012), @ Pervasive 2012
- Workshop Co-Chair, International Workshop on Digital Object Memories for the Internet of Things (DOME-IoT 2012), @ UbiComp 2012
- Workshop Co-Chair, International Workshop on Networking and Object Memories in the Internet of Things (NOMe-IoT 2011), @ UbiComp 2011
- Workshop Co-Chair, International Workshop on Intelligibility and Control in Pervasive Computing Environment (Pervasive Intelligibility 2011), @ Pervasive 2011
- Workshop Co-Chair, International Workshop on Digital Object Memories for the Internet of Things (DOME-IoT 2010), @ UbiComp 2010
- Workshop Co-Chair, International Workshop Series on Design and Integration Principles for Smart Objects (DIPSO) @ UbiComp 2009, 2008, 2007
- Demo Chair, The Tenth International Conference on Intelligent Environment (IE 2014)
- Demo Chair, The Ninth International Conference on Intelligent Environment (2013).
- Demo Chair, The Eighth International Conference on Intelligent Environment (IE 2012).
- Industrial Chair, The 12th IEEE/IPSJ International Symposium on Applications and the Internet (SAINT 2012)
- Publication Chair, The Ninth International Conference on Pervasive Computing (Pervasive 2011)
- Sponsorships Chair, The Seventh International Conference on Intelligent Environment (IE 2011).
- Publicity Chair, 9th International Conference on Smart Homes and Health Telematics (ICOST 2011)
- Publicity Chair, The IEEE 4th International Conference on Ubiquitous Information Technologies & Applications (IEEE ICUT-09).

Program Committee Membership

- The 15th IEEE International Conference on Pervasive Computing and Communications (PerCom 2017)
- The 14th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys 2016)
- The 20th International Symposium on Wearable Computers (ISWC 2016)
- The 36th IEEE International Conference on Distributed Computing Systems (ICDCS 2016)
- The 13th International ICST Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 2016)
- The 13th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC 2016)
- The 5th Workshop on the Reliability of Intelligent Environments (WoRIE 2016)
- Interacting with Smart Objects (InterSO 2016)
- The 2nd EAI International Conference on IoT in Urban Space (Urb-IoT 2016)
- The 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2015)
- The Annual International Conference on Distributed Computing in Sensor Systems (DCOSS 2015)
- Internet of Things 2015 Conference (IoT-2015)
- The Sixth International Workshop on Mobile Cloud Computing and Services (MCS 2015)
- The 4th International Workshop on Pervasive Urban Applications (PURBA 2015)
- The Eleventh International Conference on Intelligent Environment (IE 2015)
- Interacting with Smart Objects (InterSO 2015)
- The 4th Workshop on the Reliability of Intelligent Environments (WoRIE 2015)
- The Seventh International Conference on Mobile Computing, Applications, and Services (MobiCASE 2015)
- The 12th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC 2015)
- The 4th International Workshop on Internet of Things Communications and Technologies (IoT-CT 2014)
- The 2015 International Workshop on Internet of Things towards Applications (IoT-App'15)
- Internet of Things 2014 Conference (IoT-2014)
- The Tenth International Conference on Intelligent Environment (IE 2014)
- Interacting with Smart Objects (InterSO 2014)
- The 3rd International Workshop on Internet of Things Communications and Technologies (IoT-CT 2014)
- The 2013 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2013)
- The 19th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA 2013)
- The 5th International Conference on Mobile Computing, Applications, and Services (MobiCASE 2013)
- 2013 International Joint Conference on Ambient Intelligence (AmI 2013)
- The 10th International ICST Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services

- (MobiQuitous 2013)
- Interacting with Smart Objects (InterSO 2013)
- The 8th International Conference on Grid and Pervasive Computing (GPC 2013)
- 14th International Conference on Ubiquitous Computing (UbiComp 2012)
- Internet of Things 2012 Conference (IoT-2012)
- The 9th International ICST Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 2012)
- 7th International Conference on Body Area Networks (BodyNet 2012)
- 2012 International Joint Conference on Ambient Intelligence (AmI 2012)
- The 9th International Conference on Mobile Web Information Systems (MobiWIS 2012)
- The Eighth International Conference on Intelligent Environment (IE 2012).
- The 12th IEEE/IPSJ International Symposium on Applications and the Internet (SAINT 2012)
- Interacting with Smart Objects (InterSO 2012)
- First International Conference on Smart Grids and Green IT Systems (SmartGreens 2012)
- The 1st Workshop on Ubiquitous Computing for Symbio-Information Processing (UCSIP 2011)
- The 13th International Conference on Human-Computer Interaction with Mobile Devices and Services. (MobileHCI 2011)
- The 4th IEEE International Workshop on Internet and Distributed Computing Systems (IDCS 2011)
- The 8th International ICST Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (MobiQuitous 2011)
- The 8th International Conference on Mobile Web Information Systems (MobiWIS 2011)
- The 6th International Conference on Grid and Pervasive Computing (GPC 2011)
- The 7th International Conference on Intelligent Environment (IE 2011). 2011
- Interacting with Smart Objects (InterSO 2011)
- International Conference and Exhibition on Virtual Reality & Converging Technologies (Laval Virtual 2011)
- The 6th International Conference on Mobile Ad-hoc and Sensor Networks (MSN 2010)
- The 6th International Conference on Intelligent Environment (IE 2010). 2010
- Internet of Things 2010 Conference (IoT-2010)
- The 8th Annual IEEE International Conference on Pervasive Computing and Communications (PerCom 2010) – Work in Progress Committee
- The 3rd IEEE International Workshop on Internet and Distributed Computing Systems (IDCS 2010)
- The 4th International Symposium on Security and Multimodality in Pervasive Environments (SMPE-10)
- The 5th International Conference on Mobile Ad-hoc and Sensor Networks (MSN 2009)
- The 3rd International Conference on Tangible and Embedded Interaction (TEI 2009)
- The Fourth International Symposium on Ubiquitous Applications & Security Services (UASS-09)
- The 3rd International Symposium on Security and Multimodality in Pervasive Environments (SMPE-09)
- The 2nd IEEE International Workshop on Internet and Distributed Computing Systems (IDCS 2009)
- The 2008 International Conference on Intelligent Pervasive Computing (IPC 2008)

ACADEMIC ADVISING AND INTERNS

- 2016/05 - 2016/08
  Debbie Gijsbrechts, Research Intern at Bell Labs, Hasselt University
  Topic: Spontaneous Group Formation with Audio
- 2015/06 - 2015/09
  Otto Waltari, Research Intern at Bell Labs, University of Helsinki
  Topic: Opportunistic Spatio-Temporal Push Notifications with WiFi
- 2014/06 - 2014/09
  Alessandro Montanari, Research Intern at Bell Labs, University of Cambridge
  Topic: Privacy Design Space for Personal Connected Objects
- 2013/06 - 2013/09
  Moustafa Alzantot, Research Intern at Bell Labs, Egypt-Japan University for Science and Technology, Egypt
  Topic: Understanding Urban Dynamics with Differential Trace Analysis
- 2012/06 - 2012/09
  Marc Uwe Kirchmann, Research Intern at Bell Labs, Baden-Württemberg Cooperative State University, Stuttgart
  Topic: Energy Aware and Adaptive Mobile Data Collection Platform
- 2011/08 - 2011/11
  Hiroki Ishizuka, Research Intern at Bell Labs, Ph.D. Student, University of Tokyo
  Topic: Social Sensing for Human Behaviour Prediction

- 2010/10 - 2011/01
  Esunly Medina, PhD Student, Lancaster University / Barcelona Tech
  Topic: Spatial Design Space for Micro Display Network to Support Dynamic Work Place
- 2009/03 - 2010/09
  Bashar Altakrouri, Ph.D. Student, Lancaster University, UK
  Topic: Flow Driven Interaction for Pervasive Spaces
- 2010/07 - 2010/08
  Jo Vermeulen, Ph.D. Student, Lancaster University / Hasselt University
  Topic: Intelligibility for Pervasive Systems
- 2008/01 - 2008/10
  Mikko Polojarvi, M.Sc. Student, Waseda University / University of Oulu
  Topic: Event Driven Architecture for Mobile Applications
- 2007/01 - 2007/10
  Simo Hosio, M.Sc. Student, Waseda University / University of Oulu
  Topic: Interaction Tools for Smart Objects - Mobile and RFID
- 2007
  Chihiro Takayama, Teruhide Kusaka and Keisuke Hayashi, B.Sc. Student, Waseda University.
  Topic: Persuasive Interfaces and Smart Objects
- 2006
  Makoto Taguchi and Saturo Mitsui, B.Sc. Student, Waseda University.
  Topic: Multi-modal Interaction for Pervasive Environments
- 2005
  Kanako Okada, Takeshi Kambe and Ayako Takagi, B.Sc. Student, Waseda University.
  Topic: Smart Objects for Pervasive Environments