

Alessandro Montanari

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Curriculum Vitae

Education

- 10/2014–now **PhD Student in Computer Science**, *University of Cambridge, UK*.
Member of the Networks and Operating Systems group and Girton College.
Supervisor: Prof. Cecilia Mascolo
I am interested in exploring how mobile sensing technologies could be applied to study social interactions in a workplace environment. This could help improve the work experience and boost productivity and innovation by shaping the offices in ways that stimulate, for example, serendipitous interactions between members of different teams.
- 2010–2013 **MEng Computer Engineering (Laurea Magistrale)**, *University of Bologna, Italy*.
Grade: 110/110 cum laude.
Study abroad: Six months in Mid Sweden University, European Erasmus Programme.
Thesis title: Design and development of a zero-configuration platform for smart buildings based on Arduino and Web Services.
Supervisors: Prof. Enrico Denti, Dr. Ettore Ferranti and Dr. Yvonne-Anne Pignolet.
- 2007–2010 **BEng Computer Engineering (Laurea Triennale)**, *University of Bologna, Italy*.
Grade: 110/110 cum laude.
Thesis title: Porting and maintenance process of Java applications on .NET platform.
Supervisor: Prof. Enrico Denti.

Publications

- **Alessandro Montanari**, Cecilia Mascolo, Kerstin Sailer, Sarfraz Nawaz.
Detecting Emerging Activity-Based Working Traits through Wearable Technology. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT). Presented at Ubicomp 2017. Maui, Hawaii, USA. September 2017.
- **Alessandro Montanari**, Sarfraz Nawaz, Cecilia Mascolo and Kerstin Sailer.
A Study of Bluetooth Low Energy Performance for Human Proximity Detection in the Workplace. Proceedings of the IEEE International Conference on Pervasive Computing and Communications, March 2017, Hawaii, USA. **[Best Paper Nominee]**
- **Alessandro Montanari**. *Mobile Sensing for Social Interaction Monitoring and Modelling*. Proceedings of the PhD Forum of the IEEE International Conference on Pervasive Computing and Communications, March 2017, Hawaii, USA.
- **Alessandro Montanari**, Afra Mashhadi, Akhil Mathur, and Fahim Kawsar.
Understanding the Privacy Design Space for Personal Connected Objects. Proceedings of the 30th British Human Computer Interaction Conference (British HCI 2016), July 2016, Bournemouth, UK.
- **Alessandro Montanari**, Sarfraz Nawaz, Cecilia Mascolo, Kerstin Sailer.
Experience in deploying wearable devices for office analytics. Proceedings of the 1st International Workshop on Quantified Workplace. Co-located with CSCW 2016. February '16, San Francisco, USA.
- **Alessandro Montanari**, Afra Mashhadi, Aidan Boran, Fahim Kawsar.
Privacy-Aware Personal Data Store (US Patent 20,160,044,039), Published 11/02/2016.

- **Alessandro Montanari**. *Multimodal Indoor Social Interaction Sensing and Real-time Feedback for Behavioural Intervention*. Proceedings of the 2015 ACM Workshop on Wireless of the Students, by the Students, & for the Students. September 2015, Paris, France.
- **Alessandro Montanari**, Yvonne-Anne Pignolet, and Ettore Ferranti. *REST assured, we manage your microgrid*. IEEE International Conference on Smart Grid Communications (SmartGridComm), November 2014, Venice, Italy.
- Ettore Ferranti, **Alessandro Montanari**, Yvonne-Anne Pignolet, Igor Zablotski *Demo Abstract: Plug & Play Site Management or, Why Your Solar Panel Should Be Like Your Webcam*. ACM SenSys 2013. November 2013. Rome, Italy.

Experience

- 11/2017 – **Research Assistant in the Networks and Operating Systems Group**, *University of Cambridge*, UK.
now
I am working on optimizing drone surveying flight paths using on-board context sensing and computation. I am researching machine learning algorithms that best matches the requirements of low latency and resource consumption, with particular emphasis on techniques able to process video streams (e.g. Convolutional Neural Networks). The outcome of this project will be an autonomous survey system that will be adopted for research in Africa.
- 08/2017– **Intern in the IoT Applications Engineering Group.**, *ARM Holdings*, UK.
11/2017
I worked with the Demo team building IoT applications to showcase the potential of ARM's technology to different stakeholders during yearly events (TechCon and Mbed Connect 2017).
- 09/2016– **Visiting Researcher**, *Dartmouth College*, USA.
10/2016
During my visit I began a collaboration with Dr. Xia Zhou and started working on a joint project that involves mobile sensing techniques to study social interactions more accurately. The objective of the project is to develop a novel wearable device to monitor social interactions in an indoor setting and disseminate our findings in top computer science conferences.
- 2011–2015 **Collaborator of the research project "tuProlog"**, *University of Bologna*, Italy.
tuProlog is a light-weight Prolog system (interpreter and API), featuring core minimality, dynamic extensibility and configurability, seamless bi-directional integration with Java and .NET. As a volunteer, I managed the SVN repository and co-supervised students that worked on tuProlog for their bachelor/master thesis. I even gave technical contributions fixing bugs and improving functionalities the engine.
- 05/2014– **Intern in the Internet of Things Group**, *Nokia Bell Labs*, Ireland.
09/2014
I investigated the privacy risks that could emerge from the use of Internet of Things devices and devised methods to lower users' privacy concerns. The outcome of the internship is a published patent and a scientific paper.
- 09/2013– **Temporary Collaborator**, *ABB Schweiz Corporate Research Center*, Switzerland.
12/2013
I was involved in a project regarding indoor localization and I was also responsible to extend the work began with my master thesis on the Smart Grid Demo Lab project.
- 03/2013– **Master Student**, *ABB Schweiz Corporate Research Center*, Switzerland.
08/2013
I joined the ABB Research Center for 6 months to complete my Master thesis. The aim of my thesis was to design a wireless sensor platform to support flexible building automation systems that do not require manual configuration and simplify the interoperability with existing systems. Standard IPv6 protocols and the Arduino platform have been employed to create "smart" devices for sensing and actuation.

Technical skills

Programming languages

- Advanced Java, C.
- Intermediate R, Python, SQL, Bash Linux, Latex.
- Basic C#, F#, HTML, Javascript, Prolog, VHDL.

Platforms

- Desktop Linux, Mac OS X, Windows.
- Embedded Nordic nrf51822/nrf52832 Bluetooth SoC (ARM), Arduino (Atmel), Contiki OS.
- Mobile Android.

3D Modelling and 3D Printing

- Software Autodesk Fusion 360, Autodesk 123D Design.
- 3D Printer Ultimaker 2, Makerbot Replicator 2.

Languages

Italian: Native – **English:** Proficient (IELTS overall score 8.0).

Awards

- 2017 Travel grant to attend Percom 2017 provided by the IEEE Computer Society Technical Committee on Computer Communications.
- 2014 Engineering and Physical Sciences Research Council (EPSRC) Scholarship.
- 2014 Qualcomm Inc. Research Studentship in Computing.
- 2013 UBICITEC Student Travel Grant to attend SenSys 2013.
- 2011 Study Abroad Scholarship, European Erasmus Programme.
- 2007 Prize ITIS-C.A.R.-CNA Young Inventors, Rimini, Computer Science Class.

Community Service

- 2017 Reviewer for ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT).
- 2016 Program Committee member for IOT 2016, Stuttgart, Germany.
External Reviewer for UbiComp 2016 (ACM), Heidelberg, Germany.
External Reviewer for ISWC 2016, Heidelberg, Germany.
- 2015 Poster Session Committee member for IOT 2015, Seoul, S. Korea.
Reviewer for UIC 2015 (IEEE), Beijing, China.

Student Supervision

- 2017 Co-supervisor of Master student Alice Valentini, University of Bologna, Italy.
Main supervisors Prof. Marco Di Felice and Prof. Cecilia Mascolo.
- 2015–2017 Supervised course “Mobile and Sensor Systems”. University of Cambridge, UK.
Prof. Cecilia Mascolo.
- 2013–2014 Co-supervisor of Master and Bachelor students Andrea Bucaletti, Matteo Librenti and Alessio Mercurio, University of Bologna, Italy.
Main supervisor Prof. Enrico Denti.

Personal Interests

RC Quadcopters – Fishing – Free-Diving – Longboarding – Travelling