

Andreas Soleiman

Nationality: Swedish

Cellphone: (+46) 72 858 96 88

E-mail: andreas.soleiman@gmail.com

Website: <http://ansol.se/>

LinkedIn: <https://www.linkedin.com/in/andreas-soleiman/>



COMPETENCE PROFILE

- MSc. in Engineering Physics with 3 years of research experience in designing sustainable IoT solutions.
- Admitted to MIT for a PhD in computer science and electrical engineering - currently on leave.
- Experienced Software Engineer in the industry (Data engineering + Data science).
- Track record of publishing in prestigious computer systems venues (ACM MobiSys, ACM MobiCom).
- Experience in teaching and public speaking.
- International experience from working on projects in Germany (MPI-SWS) and in the UK (Oxford/Cambridge).

EDUCATION

Uppsala University, Uppsala, Sweden

August 2012 - June 2017

Master of Science, Engineering Physics (5+ year Integrated Programme, includes Bachelor's studies)

Massachusetts Institute of Technology, Boston Cambridge, USA

August 2020 -

Currently on Leave - PhD in Computer Science and Electrical Engineering, under the supervision of Prof. Fadel Adib.

WORK EXPERIENCE

Electrolux, Stockholm, Sweden.

Jan 2021 - Ongoing

Data Scientist, Global Data Science Team, Connectivity Data Domain.

Responsible for taking telemetry data from connected appliances and building analytical and machine learning products out of it - such as implementing optimization models for advanced analytics on large scale data. The ETL workflow process includes injecting data into data lake, and building higher level aggregated layer for consumption by dashboards. Tools used: Databricks (Spark), Scala and Python, Airflow for workflow orchestration, and Microsoft Azure as a Cloud hosting platform. I also focus on automation, with deployments of pipeline through proper CI/CD process (Jenkins) as well as participating in an Agile framework for sprint planning and development (Atlassian suites - Confluence, Jira, Bitbucket).

University of Cambridge, Cambridge, UK.

May 2020 - November 2020

Research Intern, supervised by Prof. Nicholas Lane

Assisting the Cambridge Machine Learning Systems Lab (CaMLSys) in the design of a battery-free intelligent microphone. I built an energy harvesting circuit using a solar powered Artemis ATP that encodes low power audio signals using a TensorFlow Lite enabled speech recognition algorithm.

Max Planck Institute for Software Systems (MPI-SWS), Saarbrücken, Germany.

January 2020 - April 2020

Research Intern, supervised by Prof. Peter Druschel

Working with the Distributed Systems Group in analyzing privacy models of mobile social networks. Helped design a graph representation of an encounter based social network and implemented it using Python. The algorithm filters through a data set and identifies encounters based on their relative coordinates within a defined radius.

Uppsala Networked Objects (UNO), Uppsala University, Sweden

June 2017 - December 2019

Research Assistant, supervised by Dr. Ambuj Varshney and Prof. Thiemo Voigt

Conducted research on designing battery-free sensors which includes hardware and software mechanisms related to sensing, wireless communication, and energy-harvesting. The outcome of this work is peer-reviewed and published at top-tier academic conferences for mobile computing and visible light communication, including ACM VLCS 2017 (Co-located with ACM MobiCom 2017), ACM WiSec 2019, and ACM MobiCom 2019.

Head of Corporate Relations, Uppsala Engineering Physics Union.

April 2013 - April 2014

Leading the engineering physics union in forming relationships with industry representatives across Sweden.

Teaching Assistant

Uppsala University, Uppsala, Sweden

- UU-61208: Internet of Things
- 1TE661: Signals and Systems

January 2018 - April 2018
September 2015 - January 2016

HONORS AND AWARDS

- Selected for the Rising Stars Forum at ACM MobiSys (2019)
- Best demonstration award at ACM WiSec (2018)
- Selected for the Cornell, Maryland, Max Planck Pre-Doctoral Research School (2018)
- Winner of the ACM Student Research Competition at ACM MobiCom (2017)
- Best paper award at ACM VLCS, held in conjunction with ACM MobiCom (2017)

SELECTED PRESS

- Oxford Seminar, *Towards Sustainable Widespread Sensing*. <http://www.cs.ox.ac.uk/seminars/2304.html>
- Coverage by elektroniktidningen, *Forskning: Koppen kan berätta om kaffet är varmt* <https://etn.se/index.php/nyheter/65787-forskning-koppen-kan-beratta-om-kaffet-ar-varmt.html>
- ABB Research Award 2019 goes to battery-free sensor project. <https://new.abb.com/news/detail/46277/abb-research-award-2019-goes-to-battery-free-sensor-project>

PUBLICATIONS

- Ambuj Varshney, **Andreas Soleiman**, Thiemo Voigt: *TunnelScatter: Low Power Communication for Sensor Tags using Tunnel Diodes*, 25th Annual International Conference on Mobile Computing and Networking (ACM MobiCom 2019), Los Cabos, Mexico (acceptance rate \approx 19%)
- **Andreas Soleiman**: *Enabling the Next Generation of Wireless Sensors*, ACM Rising Stars Forum at The 17th ACM International Conference on Mobile Systems, Applications, and Services (ACM MobiSys 2019), Seoul, South Korea
- Ambuj Varshney, **Andreas Soleiman**, Luca Mottola, Thiemo Voigt: *Battery-free Visible Light Sensing*, The Fourth ACM Workshop on Visible Light Communication Systems (ACM VLCS 2017, in conjunction with ACM MobiCom), Snowbird, Utah, USA (Best paper award)

TECHNICAL SKILLS

- **C / C++**: Embedded systems programming
- **Java/Kotlin**: Mobile applications
- **Eagle CAD**: Hardware design
- **Erlang and Standard ML**: Distributed systems programming
- **Matlab + Simulink**: Computational physics and automatic control systems design
- **R**: Statistics
- **Python**: signal processing (e.g. Scipy, filters and FFTs), machine learning (TensorFlow/Pytorch, Scikit-learn), data visualization (Matplotlib, ggplot), Pyspark on Databricks.
- **Scala**: ETL pipeline development.
- **Databricks**: Spark (Pyspark/Scalaspark) for Data Science and Data Engineering applications.
- **Qlik Sense**: Dashboard analytics
- **Git / Bitbucket**: Version control
- **Confluence, Jira**: Documentation, agile workflow with sprint planning etc.
- **Apache Airflow**: Workflow management.

LANGUAGES

- **Native proficiency**: Swedish, Arabic
- **Full professional proficiency**: English
- **Elementary**: Mandarin, French

CERTIFICATES

- AZ-900: Microsoft Azure Fundamentals