Manuel Olguín Muñoz

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Summary

Doctoral student at the School of Electrical Engineering and Computer Science of KTH Royal Institute of Technology, with research interests broadly in the area of mobile and cloud computing, pervasive computing and low-latency systems and architectures. Doctoral advisor is James Gross, PhD.

Present Position

- **KTH Royal Institute of Technology** — Stockholm, Sweden
  PhD. Student, School of Electrical Engineering and Computer Science — *Started: September 2017*

Education

- **KTH Royal Institute of Technology** — Stockholm, Sweden
  PhD. in Electrical Engineering — *Sep. 2017 — Sep. 2022 (expected)*

- **Universidad de Chile** — Santiago, Chile
  Engineer's Degree, Computer Science; Final Grade: 6.5/7.0 — *Mar. 2011 — Aug. 2017*

- **Universidad de Chile** — Santiago, Chile
  Bachelor of Engineering Science, Computer Science; Final Grade: 5.4/7.0 — *Mar. 2011 — Aug. 2017*

Academic & Research Experience

- **KTH Royal Institute of Technology** — Stockholm, Sweden
  Teaching Assistant — *Mar. 2018 — May 2018*
  - **EQ1120 Discrete Time Signals and Systems**: Course on discrete-time signals and systems, how they can be described and analyzed by using difference equations and transform methods, and be implemented in software like Matlab. Duties included teaching and grading.

- **NIC Chile Research Labs** — Santiago, Chile
  Research Assistant and Software Developer — *Aug. 2015 — June 2017*
  - **PVEINS**: Developed a plugin integrating a discrete event simulator (OMNeT++) with a traffic simulator (Paramics), in order to simulate large-scale Intelligent Transport System scenarios. This software was then presented as part of a Engineer's Degree Thesis.
  - **Early Warning System for Bikes in ITS**: Worked on an early warning system for bicycles in an Intelligent Transport System, as part of a research project under the supervision of Sandra Céspedes, PhD.
  - **Image-management Microservice**: Designed, implemented and deployed a backend microservice for image management in client-server applications for Android devices. Internal NICLabs project.

- **Dept. of Computer Science, Universidad de Chile** — Santiago, Chile
  Teaching Assistant — *Aug. 2013 — Jun. 2017*
  - **CC1000 Computer Tools for Engineering and Science**: Introductory course on computation tools, algorithmic thinking and basic computer science concepts for first year students. Duties including providing assistance at a weekly workshop and grading.
  - **CC3001 Algorithms and Data Structures**: Course on the fundamentals of algorithms (sorting, search), complexity, data structures, abstract data types and graphs. Duties included teaching and grading.
  - **CC1002 Introduction to Programming**: Course on basic programming concepts, methodologies and strategies. Duties included teaching and grading.
  - **CC3501 Computer Graphics, Visualization and Modeling for Engineers**: Course on the fundamentals of graphical programming and modeling, as well as data visualization, and how these disciplines can be applied in an interdiciplinary manner. Duties included homework design, teaching and grading.

Conferences & Workshops

- **ACM HotMobile 2019** — Santa Cruz, CA
  Paper Presentation — *Feb. 27–28 2019*

- **ACM/IEEE SEC 2018** — Bellevue, WA
  Poster Presentation — *Oct. 25–27 2018*

Publications

[1] Manuel Olguín Muñoz, Junjue Wang, Mahadev Satyanarayanan, and James Gross. 2019. EdgeDroid: An Experimental Approach to Benchmarking Human-in-the-Loop Applications. In *The 20th International Workshop on Mobile Computing Systems and Applications (HotMobile '19)*. Accepted paper submission.

[2] Manuel Olguín Muñoz, Junjue Wang, Mahadev Satyanarayanan, and James Gross. 2018. Demo: Scaling on the Edge – A Benchmarking Suite for Human-in-the-Loop Applications. In *2018 IEEE/ACM Symposium on Edge Computing (SEC)*, 323–325. DOI: 10.1109/SEC.2018.00031.

[3] Manuel Olguín Muñoz. 2017. *Diseño e Implementación de un Framework Integrado para Simulaciones de Sistemas Inteligentes de Transporte en OMNeT++ y Paramics*. Engineer's Degree Thesis. Universidad de Chile, Santiago, Chile. http://repositorio.uchile.cl/handle/2250/147392.