Manuel Olguín Muñoz

https://olguin.se

Email : manuel@olguin.se
Mobile : +46-73-652-7628

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., 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
  B.Eng.Sc., 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 — *Jan. 2016 — 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.
- **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.

Other Experience

- **Epistemonikos Foundation** — Santiago, Chile
  Software Developer — *Aug. 2016 — Dec. 2016*
  - **In-House Software**: Designed and deployed a number of in-house software solutions to optimize workflow and improve efficiency in the activities of the foundation (principally in the form of RESTful web services).
    Note: this activity was part of a mandatory advanced course on Software Development and Project Management.
- **Standford Honors Academy** — Santiago, Chile
  Teaching Assistant — *Jan. 2016*
  - **Game Design**: Worked as a Teaching Assistant for the Game Design class at the Stanford Honors Academy, an initiative by Stanford University and Eduexplora, to bring American post-graduate students and teachers as tutors for advanced topics at a summer camp for promising middle- and high school students in their own home countries.
- **NIC Chile Research Labs** — Santiago, Chile
  Software Developer — *Aug. 2015 — Dec. 2015*
  - **Image-management Microservice**: Designed, implemented and deployed a backend microservice for image management in client-server applications for Android devices. Internal NICLabs project.

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*

Languages

Spanish *(Native)*, **English** *(Fluent)*, **Swedish** *(Fluent)*.

Extracurricular Activities, Interests & Misc.

- **Social Dance at KI** — Stockholm, Sweden
  Volunteer — *Jan. 2017 — Current*
  - **Cuban Salsa and Rueda de Casino Instructor**: *Social Dance at KI* is one of the projects of the Medical Society at Karolinska Institutet, organized once every week, that offers dance lessons in Salsa LA, Salsa Cubana, Rueda and Bachata, on beginner and beginner/intermediate level.
- **Beauchef Intl. Community** — Santiago, Chile
  Student Member — *2014 — 2017*
  - **Board Member**: The Beauchef International Community is the international community of Universidad de Chile's Faculty of Physical and Mathematical Sciences, tasked with welcoming and guiding international students during their time in Chile.
- **Pedalea! Beauchef** — Santiago, Chile
  Student Member — *2013 — 2015*
  - **Bike Mechanic and Board Member**: Pedalea! Beauchef is a organization formed by students of the Faculty of Physical and Mathematical Sciences of Universidad de Chile, with the goal of fostering bicycle culture amongst students. The organization maintains a bicycle repair workshop on campus and organizes a multitude of events every semester.
- **ATA Taekwondo** — Santiago, Chile
  1st Degree Black Belt — *2008 — 2013*

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.