

Mauricio Soto

mausotog@hotmail.com | 412-900-6180 | <https://www.linkedin.com/in/mausotog>

SUMMARY

R&D Engineer with extensive experience in software research, machine learning, analytics, and development. PC member of 4 international conferences, 10+ publications, international speaker/panelist, fluent in 3 languages. Strong leadership, collaboration, and communication skills; work in groups, innovation and problem solving.

EDUCATION

Carnegie Mellon University, School of Computer Science	Ph.D. in Software Engineering	Expected Dec 2020
Carnegie Mellon University, School of Computer Science	M.Sc. in Software Engineering	December 2018
University of Costa Rica, School of Computer Science	B.Sc. in Computer Science	December 2013

PROFESSIONAL EXPERIENCE

Hitachi, North America Technology Center | Raleigh, NC

Machine Learning R&D Engineer, August 2020 – Present

- Currently designing and deploying machine learning models and tools based on time series sensor data

ABB Research Center, US Corporate Office | Raleigh, NC

Research Scientist, May 2019 – August 2020

- Led machine learning project applying feature engineering and data analysis to gathered biometric data
- Designed, simulated and tested 3D components creating prototype of automatic wiring robot
- Designed, implemented, and tested interaction mechanisms to ease programming of collaborative robots

Carnegie Mellon University, School of Computer Science | Pittsburgh, PA

Software Engineering Researcher, August 2014 – Present

- Mined probabilistic model of human behavior to patch bugs in Java without human interaction
- Created ML association rules describing the distribution of mutation operators used by developer corpus
- Analyzed and evaluated the role of test suites in overfitting during automatic program repair

Experian, Credit Score Reporting Services | Santo Domingo, CR

Software Developer II, August 2013 – August 2014

- Increased end-user security by building identity theft prevention software in collaborative agile team

Mathematics and Meta-mathematics Research Center, University of Costa Rica | San Pedro, CR

Webmaster, February 2010 – August 2014

- Led research center's development team of five software engineers to create reliable end-user programs

Rutgers University, Sonny Werblin Center | New Brunswick, NJ

Web Developer, February 2013 – September 2013

- Developed online test-taking and facility evaluation university-wide scalable applications in PHP

Intel Corporation | Heredia, CR

Software Developer, February 2012 – January 2013

- Redesigned a calendaring application in C#, development and deployment to production

TECHNICAL SKILLS

Machine Learning: scikit-learn, scipy, pandas, Un/Supervised, R, Weka, NLP, Deep Learning, Clustering
Programming Languages: Java, Python, C#, Bash, LaTeX, Scala, C, C++, SQL, PHP, UML, XML, HTML, CSS, RAPID
Libraries/Tools: Git, Travis CI, Ant, Junit, Java EE, Eclipse, Visual Studio, RobotStudio, CMS, Rest, Maven
Language skills: Fluent in English, Spanish, and Portuguese

SELECTED PUBLICATIONS (Full list: <https://www.cs.cmu.edu/~msotogon/#research>)

- Motwani et al. "Quality of Automated Program Repair on Real-World Defects", TSE 2020
- Soto, Mauricio. "Improving Patch Quality by Enhancing Automatic Program Repair", ASE 2019
- Soto et al. "Using a Probabilistic Model to Predict Bug Fixes", SANER 2018

PROFESSIONAL SERVICE

- Program Committee Member: ESEM'20, MSR'20, EMSE'19, MSR'19; Volunteer: ASE'19, SPLASH'15
- Teaching assistantships: Mobile and IoT Computing Services (2019); Information Security and Privacy (2016)
- Representative to Google (CMU Rep), to SHPE (ABB Rep), and to the Diversity Council (Grad Student Rep)