

Mauricio Soto

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SUMMARY

R&D Engineer with 10+ years of experience in machine learning, software research, 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	May 2021
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 ABB Power Grids, North America Technology Center | Raleigh, NC

Senior Machine Learning R&D Engineer, August 2020 – Present

- Design and deploy machine learning models based on time series sensor data to support third party clients
- Project leader in charge of goal planning, time distribution, budget, and reporting to corporate executives

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

Software Engineering Researcher, August 2014 – May 2021

- Created ML association rules describing code changes to inform automatic program repair approach
- Analyzed and evaluated the role of test suites in overfitting for heuristic-based APR techniques

ABB Research Center, US Corporate Office | Raleigh, NC

Research Scientist, May 2019 – August 2020

- Led machine learning project creating models to predict productivity indicators from 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

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 websites

Rutgers University, Sonny Werblin Center | New Brunswick, NJ

Web Developer, February 2013 – September 2013

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

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 of publications: <https://mausotog.github.io/#research>)

- Soto et al. "Observing and Predicting Knowledge Worker Stress, Focus and Awakeness", IJHCS 2021
- 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

PROFESSIONAL SERVICE

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