Navid Salehnamadi

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Education

University of California, Irvine - Ph.D. in Software Engineering — Irvine, CA | *Sep. 2017 – Nov. 2022*

Sharif University of Technology - M.Sc. in Software Engineering — Tehran, Iran | *Sep. 2015 – Aug 2017*

University of Tehran - B.Sc. in Computer Engineering — Tehran, Iran | *Sep. 2011 – Sep 2015*

Experience

University of California Irvine - Graduate Research Assistant — *Oct. 2017 - Sep. 2022*

- Incorporated deep learning models to fix inaccessible icons in mobile apps
- Designed and created novel testing techniques to detect 3 new categories of accessibility issues in mobile apps, unknown to existing accessibility testing techniques
- Devised a scalable and accurate static analysis technique to detect event races, 12 times faster than existing tools

Microsoft - Research Intern — *Jun. 2021 - Sep. 2021*

- Designed a multi-level job caching mechanism, improved the response time +30 times faster than the baseline model
- Implemented a scalable caching service using ASP.NET, CosmosDB, and Azure Storage

CafeBazaar - Software Engineer — *Oct. 2015 - Aug. 2017*

- Coordinated a number of teams (with 6 to 11 members) to create tools for Android app developers
  - Established a developers panel based on microservice architecture (using Django, Docker, and Kubernetes)
  - Redesigned an automated system to detect malware and low-quality apps, resulting in 4 times faster turnaround time
- Inspected technical teams' performance issues at a company-wide level, leading to initiate a technical boot camp for entry-level developers

Skills

Programming Languages: Python, Java, C#, SQL, Bash, C++

Technologies and Frameworks: Android, ASP.NET, Cosmos DB, Azure Storage, Docker, Soot, Django, Keras, Pytorch, Rails

Software Engineering: Agile (Scrum), Program Analysis, Test-Driven Development, Object-Oriented Design, Design Patterns

Notable Passed Courses: Deep Generative Models, Machine Learning, Programming Deep Neural Network, Software Testing, Big Data Algorithms, Randomized Algorithms, Social Network Analysis

Publication and Patent

Automated Assistive-Technology Driven Accessibility Testing Environments
U.S. Provisional Patent Serial No. 63/178,708, filed 04/23/2021
Navid Salehnamadi and Sam Malek

Groundhog: An Automated Accessibility Crawler for Mobile Apps
*Published in **ASE 2022**, 37th International Conference on Automated Software Engineering*
Navid Salehnamadi, Forough Mehralian*, and Sam Malek*

Too Much Accessibility is Harmful! Automated Detection and Analysis of Overly Accessible Elements in Mobile Apps
*Published in **ASE 2022**, 37th International Conference on Automated Software Engineering*
Forough Mehralian, Navid Salehnamadi*, Syed Fatiul Huq, and Sam Malek*

DeltaDroid: Dynamic Delivery Testing in Android
Published in ACM Transactions on Software Engineering and Methodology (TOSEM)
Negar Ghorbani, Reyhaneh Jabbarvand, Navid Salehnamadi, Joshua Garcia, and Sam Malek

Data-driven Accessibility Repair Revisited: On the Effectiveness of Generating Labels for Icons in Android Apps
*Published in **ESEC/FSE 2021**, The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering*
Forough Mehralian, Navid Salehnamadi, and Sam Malek

Latte: Use-Case and Assistive-Service Driven Automated Accessibility Testing Framework for Android
*Published in **CHI 2021**, Conference on Human Factors in Computing Systems*
Navid Salehnamadi, Abdulaziz Alshayban, Jun-Wei Lin, Iftekhar Ahmed, Stacy Branham, and Sam Malek

ER Catcher: A Static Analysis Framework for Accurate and Scalable Event-Race Detection in Android
*Published in **ASE 2020**, 35th International Conference on Automated Software Engineering (23% acceptance rate)*
Navid Salehnamadi, Abdulaziz Alshayban, Iftekhar Ahmed, and Sam Malek

Test Automation in Open-Source Android Apps: A Large-Scale Empirical Study
*Published in **ASE 2020**, 35th International Conference on Automated Software Engineering (23% acceptance rate)*
Jun-Wei Lin, Navid Salehnamadi, and Sam Malek

A Benchmark for Event-Race Analysis in Android Apps (Poster)
*Published in **MobiSys 2020**, 18th International Conference on Mobile Systems, Applications, and Services*
Navid Salehnamadi, Abdulaziz Alshayban, Iftekhar Ahmed, and Sam Malek

Awards

Bob & Barbara Kleist Endowed Graduate Fellowship	2021
The Sigma Xi Grants-in-Aid of Research	2021
Summer Inclusive Excellence Grant - University of California, Irvine	2021
Noyce Fellow - University of California	2021
Chair's Award - UCI, School of Informatics and Computer Science	2017
ACM Student Chapter Excellence Award - Outstanding School Service	2015
Golden Medal in Iran Nationwide Scientific Olympiad - Computer Science	2014
ACM International Collegiate Programming Contest (ICPC) Top 10 Teams of west Asia region	2013
Robocup Rescue Simulation League Top 3 Teams - IranOpen Robocup Competition	2012
Silver Medal in Iran National Olympiad in Informatics	2010
Khwarizmi Young Award	2009

Notable Side Projects

Soot Tutorial: A series of tutorials with visualization to learn static program analysis using **Soot**

IOI Translation: Developed a translation framework, used in the International Olympiads in Informatics, 2017-2020

VAHED: Designed and implemented a web app by **Rails** to assist students on planning for upcoming semesters, 1K users

Peer-Review Service

ACM Transactions on Software Engineering and Methodology (TOSEM)	2021
IEEE International Conference on Software Architecture (ICSA)	2021
Computing: Archives for Scientific Computing (COMP)	2021
Grace Hopper, Software Engineering Review Committee	2020-2021
European Conference on Software Architecture (ECSA)	2019-2020

Leadership Experience and Community Involvement

External Liaison, Resident Council of Graduate Housing at UCI	2021-2022
Coordinator, Student Journal Club on Software Engineering and Machine Learning at UCI	2020-2021
Live! Virtualization Team Member, International Conference on Software Engineering	2020
Technical Organizer, International Olympiad in Informatics	2017
Chief editor,F1 the scientific journal of the ACM student chapter of University of Terhan	2015
Vice-chair, the ACM student chapter of University of Terhan	2014-2015
Team Leader, Robocup Rescue Simulation, Allame Helli high school, Tehran	2011-2012