Ali Shokri

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👥 About Me

I'm a software engineer with 14 years of experience in software industry, currently pursuing my PhD in Computer Science at the department of Software Engineering at Rochester Institute of Technology (RIT), NY, US. The main focus of my research is on leveraging different techniques including Program Analysis, API Recommendation, and Formal Methods to enable real-life Program Synthesis and help programmers correctly develop their codes. My paper on Component-based Program Synthesis won the Research Competition Award at the 36th IEEE/ACM International Conference on Automated Software Engineering (ASE'21). I'm always passionate about learning new things and facing new challenges.

🎓 Education

- **Ph.D., Computer Science** (Jan 2018-Expected Jan 2023)
  Rochester Institute of Technology (RIT), NY, USA
  - Topic: Program Synthesis
  - Advisor: Dr. Mehdi Mirakhorli
- **M.Sc., Information Technology Engineering** (Feb 2011 – Jan 2014)
  Tarbiat Modares University (TMU), Tehran, Iran
  - Topic: Path Planning in Modular Robots
  - Advisor: Dr. Ellips Masehian
- **B.Sc., Software Engineering** (Sep 2001- Sep 2007)
  University of Tehran (UT), Tehran, Iran
  - Topic: Software Engineering
  - Advisor: Dr. Khansari

💼 Work Experience

- **Research Intern – Palo Alto Research Center (PARC)** (Feb 2022 – Expected: May 2022)
  - Location: Palo Alto, CA, USA
  - Projects Involved in: ReMath (Software Synthesis)
  - Responsibilities: Research, Writing Paper, Presentation, Software Development

- **Graduate Research Assistant - Software Design and Productivity Lab** (Jan 2018 – Expected: Dec 2023)
  - Location: Rochester, NY, USA
  - Projects Involved in: Software Synthesis, Software Certification, Security Tactics
  - Responsibilities: Research, Writing Paper, Presentation, Software Development, Software Design

– **Senior Software Engineer - Samen Ertebat Asr (SEA)** (Oct 2016 – Jan 2018)
  - Location: Tehran, Iran
  - Projects Involved in: Banking System
  - Responsibilities: Software Architecture, Software Design, Software Development

– **Senior Software Engineer - Rose System (IIN Groups)** (Aug 2016 – Oct 2016)
  - Location: Tehran, Iran
  - Projects Involved in: Scientific Content Provider
  - Responsibilities: Software Architecture, Software Design, Leading a Team

– **Senior Software Engineer - Melat Insurance** (Dec 2011 – Aug 2016)
  - Location: Tehran, Iran
  - Projects Involved in: Insurance System, Banking System, Global Distribution System (GDS)
  - Responsibilities: Leading a Team, Project Management, Software Architecture, Software Design, Software Development

– **Software Engineer - Raydana** (Sep 2005 – Feb 2012)
  - Location: Tehran, Iran
  - Projects Involved in: Enterprise Resource Planning (ERP) System
  - Responsibilities: Leading a Team, Project Management, Software Design, Software Development

– **Software Engineer - Paliz CT** (Dec 2006 – Jun 2007)
  - Location: Tehran, Iran
  - Projects Involved in: Tehran Municipality System
  - Responsibilities: Requirement Analysis, Software Design, Software Development

– **Co-Founder & Lead Developer - Rayan Narm Fan** (Nov 2006 – Nov 2010)
  - Location: Tehran, Iran
  - Projects Involved in: Qeshm Entrance-Exit Control System
  - Responsibilities: CEO, Leading a Team, Software Design, Software Development

– **Freelance Software Developer** (Dec 2004 – Sep 2005)
  - Location: Tehran, Iran
  - Projects Involved in: Software Development
  - Responsibilities: Software Development, Website Development

Skills

– **Software Development**
  - Languages/Frameworks/Tools: Java, J2EE, Hibernate, HTML, Git, SVN, CSS, JavaScript, SOAP, REST, JSF, Primefaces, JSP, Matlab, Junit, JPA, JML, C, C++, Delphi, CBuilder, Python, PHP, ASP, C#, .Net Framework, GWT, Spring, Struts, PyTorch, BERT
  - IDEs: IntelliJ IDEA, Eclipse, Visual Studio
  - Databases: MySQL, SQL Server, Oracle, Access
  - Servers: Weblogic, Tomcat, JBoss, Glassfish

- – Software Design
  - Design Paradigms: **Object Oriented**, Data Driven, Procedural
  - Architectural Tactics/Patterns: **SOA**, Broker, Heartbeat, Micro-service
  - Design Tools: Rational Rose, Power Designer, Luci Charts
- – Team Management
  - Scale: **5 members**, 10 members, 15 members and above
  - Member's Expertise: **Software developers**, **Software designer**, graphists, System analysts
- – Research
  - Conducting research: **Identifying problems**, **Critical literature review**, **Finding solutions**, **Publishing results**
  - Tools/Concepts: **Program Synthesis** (Programming-by-Example, Sketch-based Programming, Component-based Programming), **Program Analysis** (WALA), API recommendation (Itemset Mining, Sequence Mining, Graph Mining), Formal Methods (Event-B, Rodin)
  - Contribution: **Giving lectures and presentations, Paper reviewing**, Teaching

▤ Publication

- – Conference Papers
  - Shokri, A., "A Program Synthesis Approach for Adding Architectural Tactics to An Existing Code Base", In 2021 36th IEEE/ACM International Conference on Automated Software Engineering (ASE) (pp. 1388-1390). IEEE.
  - Shokri, A. and Mirakhorli, M., 2021. DepRes: A Tool for Resolving Fully Qualified Names and Their Dependencies. arXiv preprint arXiv:2108.01165.
  - Shokri, A. and Mirakhorli, M., "ArCode: A Tool for Supporting Architectural Concerns Comprehension and Implementation", In 2021 29th IEEE/ACM International Conference on Program Comprehension (ICPC) (pp. 485-489). IEEE.
  - Shokri, A., Santos, J.C. and Mirakhorli, M., 2021, March. ArCode: Facilitating the Use of Application Frameworks to Implement Tactics and Patterns. In 2021 IEEE 18th International Conference on Software Architecture (ICSA) (pp. 138-149). IEEE.
  - Santos, J.C., Shokri, A. and Mirakhorli, M., 2020, October. Towards Automated Evidence Generation for Rapid and Continuous Software Certification. In 2020 IEEE International Symposium on Software Reliability Engineering Workshops (ISSREW) (pp. 287-294). IEEE.
  - Shokri, A. and Masehian, E., 2015, October. A meta-module approach for cluster flow locomotion of modular robots. In 2015 3rd RSI International Conference on Robotics and Mechatronics (ICROM) (pp. 425-431). IEEE.
  - Shokri, A. Hashemi, S., Akbaripour, H., Amin-naseri, M., 2013, Overcrowding Detection and Management in Emergency Department using Expert System. In 11th Iranian Conference on Intelligent Systems (ICIS2013).
  - Kazemi Tabar, J., Shokri, A., Jenadeleg, M., Optimized Job Shop scheduling as Constraint Satisfaction Problem using Genetic Algorithms. In 2007 12th Conference of Computer Society of Iran (CSICC 2007).

- Journal Papers
  - Hashemi, S., Shokri, A., Amin Naseri, M. and Akbaripour, H., 2014. Designing an expert system for management of crowding and overcrowding in emergency departments. Advances in Industrial Engineering, 48(2), pp.281-292.

Contributions to SE Community

- Reviewer
  - Reviewer for the IEEE Software Journal (IEEE Softw.)
  - Reviewer for the Journal of Systems and Software (JSS)
  - Reviewer for the e-Informatica Software Engineering Journal (EISEJ)
  - Sub-reviewer for ACM Transactions on Software Engineering and Methodology (ToSEM)
  - Sub-reviewer at 42nd International Conference on Software Engineering (ICSE'20)
- PC Member
  - 31st ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA'22) – Tool Demo track
  - 22nd IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM'22) – Research track
  - 30th International Conference on Program Comprehension (ICPC'22) – Research track
  - 43rd ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI'22) – Research Artifact
  - 38th IEEE/ACM International Conference on Software Maintenance and Evolution (ICSME'22) – Tool Demo
  - 37th IEEE/ACM International Conference on Automated Software Engineering (ASE'22) – Student Research Competition
  - 37th International Conference on Software Maintenance and Evolution (ICSME'21) – Tool Demo
  - 35th European Conference on Object-Oriented Programming (ECOOP'21) – Research Artifact
- Lecturer
  - RIT SWEN-610 - Graduate Level Course (Guest Lecturer): Foundation of Software Engineering (An Introduction to Program Synthesis)
  - Design Patterns (Melat Insurance Co.)
  - Java Programming (Raydana Co.)

Proud of

- ASE'21 Research Competition Award (2021)
  - The winner of the Research Competition award at the 36th IEEE/ACM International Conference on Automated Software Engineering (ASE'21).
- Data61 Research Scholarship (2018)

- Recipient of a prestigious scholarship for conducting my research at Data61, a world leader in data science research and engineering.
– University of Melbourne (2018) and Monash University (2017)
  - Admitted as a fully funded PhD student to the University of Melbourne (ranked ~30th) with a prestigious fellowship, as well as Monash University (ranked ~60th).
– Iran Nation-wide University Exam (2001)
  - Among top 0.1% participants in 2001 Iran nation-wide university entrance exam (B.Sc.).