Rosa Abbasi Boroujeni

Ph.D. Student

MPI-SWS, Germany
☎ +49 (631) 9303 8116
✉ rosaabbasi@mpi-sws.org
🖥 people.mpi-sws.org/~rosaabbasi

Research Interests

Software Verification, Programming Languages, Model Checking, Software Testing

Education

2018 – **Ph.D. in Computer Science**

Max Planck Institute for Software Systems (MPI-SWS), Kaiserslautern, Germany

Advisor: Dr. Eva Darulova

2013 – 2016 **M.Sc in Computer Engineering (Software)**

University of Tehran, Tehran, Iran

Advisors: Dr. Ramtin Khosravi, Dr. Fatemeh Ghassemi

2006 – 2012 **B.Sc in Computer Engineering (Software)**

Isfahan University of Technology, Isfahan, Iran

Advisor: Dr. Masoud Reza Hashemi

Research Projects

2018 – **Verification of Floating-Point Properties in Java Programs**

Programming Languages and Verification Group, MPI-SWS, Kaiserslautern, Germany

Area of Research: Automated Software Verification, Numerical Approximation, Deductive Verification

2019 **Implementation of a Reference Static Code Analysis Tool as Part of the Program Analysis Course TAship**

MPI-SWS and TU Kaiserslautern, Kaiserslautern, Germany

2014 – 2016 **Verification of Distributed Systems with an Unspecified Component (Master's Thesis)**

Formal Methods and System Verification Lab, University Of Tehran, Tehran, Iran

Area of Research: Assumption Generation, Component Verification, Compositional Verification

2014 **Formal Modeling of Mobile Ad hoc Networks Using mCRL2 and Process Analysis Toolkit**

University of Tehran, Tehran, Iran

2013 **Modeling and Verification of a Decision Making Protocol in an Asynchronous Distributed Environment Using the REBECA Actor Based Language**

University of Tehran, Tehran, Iran

2012 **Analysis of Existing Captive Portals and Their Services, Implementation of an Experimental Captive Portal (Bachelor's Thesis)**

Isfahan University of Technology, Isfahan, Iran

Area of Research: Computer Networks

Work Experience

2016 – 2018 **Test Engineer and Quality Control Expert**

Dotis Arian Qeshm (Dotin), Tehran, Iran

○ Created Test Automation Frameworks and Instructed Test Automation Courses
○ Created and Maintained Fully Automated CI/CD Pipelines

2013 **Java Core Developer**

Open Source Information and Communication Technology Co., Tehran, Iran

○ J2EE Application Design and Development
○ Database Design, XDM Server Design and Implementation

2011 **Intern (Three Months)**

Computer Network and Network Security Research Lab, Isfahan University of Technology, Isfahan, Iran

○ Lab Manual Design for the Computer Network and Security Lab Courses
○ Simulation and Configuration of Routing Protocols and Secure Connections

Publications

2018 **Deductive Verification of Floating-Point Java Programs in KeY**

Rosa Abbasi, Jonas Schiffl, Eva Darulova, Mattias Ulbrich, Wolfgang Ahrendt

TACAS'21 - Nominated for the EAPLS Best Paper Award

2018 **Verification of Asynchronous Systems with an Unspecified Component**

Rosa Abbasi, Fatemeh Ghassemi, Ramtin Khosravi

Acta Informatica - Springer

Teaching Experience

2021 **Graduate Teaching Assistant, Program Synthesis Seminar (SS21)**

2019 **Graduate Teaching Assistant, Program Analysis (WS19/20)**

MPI-SWS and Technical University of Kaiserslautern

2015 **Graduate Teaching Assistant, Process Algebra and Automata Theory**

University of Tehran

Talks and Posters

Talks

2021   Deductive Verification of Floating-Point Java Programs in KeY, FPTalks, Online

Deductive Verification of Floating-Point Java Programs in KeY, KeYnote Series, Online

Deductive Verification of Floating-Point Java Programs in KeY, TACAS, Luxemburg, Virtual

Posters

2018   Verification of Floating-Point Properties in Java Programs, Google's 6th Compiler and Programming Language Summit, Munich, Germany

Other Academic Activities

2020 –   Student Representative Deputy at MPI-SWS

2021   SAS'21 Artifact Evaluation PC Member

2021   CAV'21 Artifact Evaluation PC Member

2021   Organizing Committee Member of Girl's Day at MPI-SWS

2019   Participation in the Marktoberdorf Summer School on Safety and Security of Software Systems, Marktoberdorf, Germany

2019   Participation in the ETAPS 2019 Mentoring Workshop, Prauge, Czech Republic

2019   Student Volunteer at ETAPS 2019

2016   Participation in the IPM Formal Methods Winter School, Tehran, Iran

2015 – 2016   Coordinator of the Formal Methods and System Verification Group Meetings at University of Tehran

2011   Participation in the TCP/IP Workshop at Isfahan University of Technology, Isfahan, Iran

Honors

2021   Nominated for the EAPLS Best Paper Award

2018   Invited to Google's 6th Compiler and Programming Language Summit

2014   Ranked 2_{nd} in the Women's Swimming Competition, University of Tehran

2013   Ranked 52_{th}, among more than 13000 Participants in the National M.Sc. Entrance Examination in Computer Engineering, Iran

2006   Selected as the Top 0.6% out of more than 400,000 Participants in the National University Entrance Examination for the B.Sc. Degree, Iran

Skills

Programming	Java, Scala, C, C++, Shell Scripts, SQL, MATHLAB, REBECA, HTML, CSS
Formal Modeling & Verification Tools	KeY, mCRL2, UPPAAL, Petri Net, CADP, AFRA, Z3, CVC4, Process Analysis Toolkit
Applications	Git, Maven, Gradle, Jenkins, Nexus, Jira, SonarQube, Review Assistant, Lemur
Operating Systems	Linux(Ubuntu, CentOS), Widnows, MacOS
Languages	Persian(Native), English(C2), German(A2), French(A1)