
Mohammad Robati Shirzad

Software Engineer

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RESEARCH INTERESTS

1. Automated Program Synthesis / Repair
2. Compiler / Programming Language Design
3. Software Engineering / Verification
4. Human-Computer Interaction
5. Distributed Systems

EDUCATION

University of Waterloo - *Waterloo, ON, Canada*

Sep 2021 - Sep 2023

- **M.A.Sc.**, Electrical and Computer Engineering, Computer Software
- Supervised by: **Dr. Patrick Lam**
- GPA: 89.0 / 100

Amirkabir University of Technology (Tehran Polytechnic) - *Tehran, Iran*

Sep 2017 - Sep 2021

- **B.Sc.**, Computer Engineering, Software/Networking
- GPA: 18.36/20 (=3.9/4.0)

AWARDS

1. Announced as the **Outstanding Student**, Amirkabir University of Technology, Tehran, Iran, 2020
2. **Ranked 3rd** in SnappTrip programming contest (out of 1022 participants), 2020
3. **Ranked in the top 0.5%** in the Nationwide University Entrance Exam for B.Sc
4. **Ranked 1st** in the State Exemplary High Schools Entrance Exam, Ahwaz, Iran, 2012

RESEARCH EXPERIENCE

1. **Synthesizing Boolean Expressions Based On Several Constraints Using Counterexample Guided Inductive Synthesis Concepts** - *ECE750T28 Project - University of Waterloo ([link](#))*
2. **JS-Buxter: A program repair framework for Javascript** - *Undergraduate Honor Thesis - Amirkabir University of Technology ([link](#))*

TEACHING EXPERIENCE

1. **Teaching Assistant, ECE459, Programming For Performance**, University of Waterloo, *Winter 2022*, Under the supervision of Prof. Patrick Lam, and Dr. Jeff Zarnett, *Responsible for automatically grading code assignments written in Rust / Answering students' questions on Piazza.*
2. **Teaching Assistant, Signals And Systems**, AUT, *Fall 2020*, Under the supervision of Prof. Mehdi Rasti, *Responsible for designing Python / Matlab signal processing programming exercises and projects.*
3. **Teaching Assistant, Computational Intelligence**, AUT, *Fall 2020*, Under the supervision of Prof. Mohammad Mehdi Ebadzadeh, *Responsible for designing projects and exercises related to the Fuzzy Systems section.*
4. **Teaching Assistant, Principles of Compiler Design**, AUT, *Fall 2020*, Under the supervision of Prof. Mohammad Reza Razzazi, *Coordinating the team + Designing a grammar for the project, designing and grading assignments + Teaching students how to use Python to build a compiler.*
5. **Teaching Assistant, Principles of Compiler Design**, AUT, *Spring 2020*, Under the supervision of Prof. Saeedeh Momtazi, *Coordinating the team + Designing a grammar for the project, Designing and grading assignments + Teaching students how to use Python to build a compiler.*
6. **Teaching Assistant, Principles of Compiler Design**, AUT, *Fall 2019*, Under the supervision of Prof. Mohammad Reza Razzazi, *Designing theoretical exercises + Teaching students how to use Python to build a compiler.*
7. **Instructor, Web Design Fundamentals**, AUT, *Summer 2019*, *Teaching the course + Designing code exercises and the final project + evaluating grades*

WORK EXPERIENCE

1. **Utopia (utopiapp.ir)**, *Lead Front-End Developer, Spring 2020 - Fall 2021*

TECHNICAL SKILLS

- **Programming Languages**
Javascript, Python, Rust, Java, C/C++, Racket, C#
- **Database Systems**
MongoDB, Redis, MySQL, SQL-Server
- **Operating Systems**
macOS, Linux (Kali/Ubuntu), Windows
- **Web Development**
ReactJS, NodeJs, Django, HTML, CSS, Bootstrap
- **Other**
Unity, PLY(Lex/Yacc)

OTHER ACTIVITIES

Piano Player (Since 2010)

LANGUAGES

1. Farsi (Native)
2. English (Advanced C1 - IELTS: 7.5)

REFERENCES

Patrick Lam, Associate Professor, Electrical and Computer Engineering Department, University of Waterloo, p23lam@uwaterloo.ca

Mehran Soleiman Fallah, Associate Professor, Computer Engineering Department, Amirkabir University of Technology, msfallah@aut.ac.ir

Mohammad Reza Razzazi, Professor, Computer Engineering Department, Amirkabir University of Technology, razzazi@aut.ac.ir

Mohammad Mehdi Ebadzadeh, Professor, Computer Engineering, Amirkabir University of Technology, ebadzadeh@aut.ac.ir

Saeedeh Momtazi, Assistant Professor, Computer Engineering Department, Amirkabir University of Technology, momtazi@aut.ac.ir

Mehdi Rasti, Assistant Professor, Computer Engineering Department, Amirkabir University of Technology, rasti@aut.ac.ir