Taha Rostami

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Education

M.Sc., Software Engineering, Tarbiat Modares University (TMU), Iran, GPA: 3.88/4.0 **2019 - 2022**

B.Sc., Software Engineering, Babol Noshirvani University of Technology (BNUT), Iran, GPA: 3.55/4.0 **2014 - 2019**

Work Experience

Research Assistant, Tarbiat Modares University **Sep 2020 - Oct 2022**

- Developed innovative methods for predicting fault-revealing mutants, resulting in a 9% accuracy improvement
- Developed transfer learning-based methods that outperformed previous solutions in Mutant Selection and Prioritization by 67% and 4%
- Investigated predictive mutation testing and proposed a method that handles missing values with a 10% accuracy improvement
- Formulated two new problems in mutation testing: Dynamic Mutant Prioritization (DMP) and Dynamic Mutant Selection (DMS)
- Suggested concrete frameworks for future research on DMP and DMS

Tutor, Faradars Company [link] **Jan 2021 - Mar 2021**

- Created and taught a C# course on Consuming Web Services, purchased by around 250 students with very positive feedback

Software Developer Intern, RADMAN Company **Jul 2018 - Sep 2018**

- Customized RADMAN's website template using Html5, CSS3, and Java Script
- Designed and Implemented a SQL server database for their website
- Implemented the website's backend by C#, and ASP.NET Core

Teaching Assistant, Babol Noshirvani University of Technology **Feb 2017 - Jun 2017**

- Designed and oversaw a project for an Advanced Programming course, delegating tasks to 70 students
- Instructed C# by guiding students through multiple practice problems

Software Developer Intern, Behineh System Company **Jul 2015 - Sep 2015**

- Developed management software for a client using C#
- Designed and implemented a SQL Server database for the software
- Created a custom Persian calendar feature for the software

Volunteer Work Experience

- Identified potential issues in published research related to software engineering, contributing to scientific integrity, such as [link]
- Applied technical expertise to interdisciplinary domestic/international projects, ensuring timely completion, such as [link] and [link]
- Mentored 10 computer science, chess, and language students on study strategies, career development, and problem-solving techniques
- Assisted Farsi language learners on the HiNative platform, improving their speaking, writing, and comprehension skills [link]

Publications

Scientific Journal/Working Papers

- **T. Rostami**, S. Jalili, "Predicting useful mutants by fine-tuning the UniXcoder pre-trained model," in prep., 2023 [link]
- **T. Rostami**, S. Jalili, "Predicting fault-revealing mutants based on mutant killing severity," submitted to Information and Software Technology, Under Review, 2023 [link]
- **T. Rostami**, "An interpretable model for predicting non-trivial equivalent mutants of the MART," submitted to The Journal of Systems & Software, Under Review, 2023 [link]

Scientific Conference Papers

- **T. Rostami**, S. Jalili, "A heuristic function for improving the prediction accuracy of fault revealing mutants," in 9th Iranian Joint Congress on Fuzzy and Intelligent Systems, 2022 [link]
- **T. Rostami**, S. Jalili, "A method for improving predictive mutation testing that considers the impacts of missing data," in 12th International Conference on Information and Knowledge Technology, 2021 [link]

Non-Scientific

- **T. Rostami**, "Navigating the Challenges of Studying Computer Science: A Guide for Students at Babol Noshirvani University of Technology," 2023 [link]

Last Undergraduate Projects

Harif - a graph-based automatic course-selection system that recommends schedules based on students' preferences [link] **2018**

- Analyzed the curriculum published by the Ministry of Science and BNUT
- Formulated the core problem as MAX-SAT with a set of hard and soft constraints
- Designed and implemented a randomized algorithm for solving the problem that satisfies all hard constraints and maximizes a given objective function calculated based on soft constraints
- Designed and implemented efficient software using C# that provides all the above facilities with a modern and user-friendly interface

NitPhoneBook - A phone book for BNUT [link] **2018**

- Specified the system's requirements by conducting a series of interviews with BNUT's administrators
- Analyzed the specified requirements and designed an architecture for the software
- Designed and implemented a recursive algorithm that satisfies one of the primary requirements of the system
- Designed and implemented a SQL server database of the system in collaboration with other members
- Designed and implemented a desktop application with a modern and user-friendly interface

Relevant Awards

- Outstanding student, ranked 1st at Computer Engineering Dept., TMU, Tehran, Iran, 2021

Languages

- **Persian - Native**
- **English - TOEFL iBT: Total 93, Reading 28, Listening 21, Speaking 22, Writing 22, April 01, 2023**

Computer Skills

- **Highly skilled in Microsoft technologies**, with 6+ years of expertise in C#, SQL Server, ASP.NET Core, ML.NET, SignalR, and more
- **Highly experienced in data science tools**, with 3+ years of experience in Python, PyTorch, TensorFlow, LightGBM, Optuna, and more
- **Familiar with** Z3, LLVM, Hugging Face, NLTK, PyG, Stable Baselines, PyGad, JavaScript, Java, C, MySQL, Docker, Git, and more

References

Saeed Jalili, Associate Professor of Computer Science, TMU, sjalili@modares.ac.ir [g.scholar] [homepage]

Ali Gholami Rudi, Assistant Professor of Computer Science, BNUT, gholamirudi@nit.ac.ir [g.scholar] [homepage]

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