

# Taha Rostami

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## Education

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**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

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**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

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- 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

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### 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

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#### **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

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

### Languages

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

### Computer Skills

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- **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, Hadoop, Docker, Git, and more**

### References

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Saeed Jalili, Associate Professor of Computer Science, TMU, [sjalili@modares.ac.ir](mailto:sjalili@modares.ac.ir) [\[g.scholar\]](#) [\[homepage\]](#)

Ali Gholami Rudi, Assistant Professor of Computer Science, BNUT, [gholamirudi@nit.ac.ir](mailto:gholamirudi@nit.ac.ir) [\[g.scholar\]](#) [\[homepage\]](#)

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