Mohammad Shahabadi Farahani

Personal Information

Date of Birth: September 18, 2002

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Educational Background

- **B.Sc.** in Computer Engineering, September 2020 to January 2025 (Expected), K. N. Toosi University of Technology, Tehran, Iran, **Total GPA: 17.75 out of 20 (3.73 out of 4)**

  Selected Passed Courses:

  Fundamentals of programming (20/20)
  Algorithm Design (20/20)
  Computer Structure & Language (20/20)
  Advanced Programming (18.5/20)
  Principles of Computational Intelligence (20/20)
  Principles of Compiler Design (20/20)
  Principles of Database Design (20/20)
  Computer Networks II (17.8/20)
  Artificial Intelligence & Expert Systems (17.25/20)
  Differential Equations (19.7/20)

- **High School Diploma** in Mathematics and Physics, September 2017 to September 2020, Bahonar High School, Tehran, Iran, **Total GPA: 18.57 out of 20**

Teaching Experience

- Teacher Assistant for Principles of Compiler Design, supervised by Professor Alaeiyan, Fall 2024.
- Teacher Assistant for Advanced Programming, supervised by Professor Esnaashari, Spring 2024.
- Teacher Assistant for Fundamentals of Programming, supervised by Professor Nasihatkon, Fall 2023.
- Teacher Assistant for Advanced Programming, supervised by Professor Zamanian, Fall 2022.

Special Interests

- **Software Engineering**: Programming (Proficient in languages such as [Python, Java, Typescript]), Algorithmic Design, Software Development Life Cycle (SDLC), System Architecture
- **Programming Language** : Language design, implementation, compiler construction, and verification methods, with a particular focus on ensuring program correctness through type systems, formal verification, and static analysis

Professional Experience

- Research Intern, Software Engineer, National University of Singapore (NUS), Singapore July 2024 – October 2024
    - Collaborated with **Professor Henz** on SourceAcademy, an open-source educational platform, enhancing the **C compiler** with client-side execution capabilities.
    - Enabled conversion of C code to **WebAssembly**, allowing C programs to run directly in the browser.
    - Integrated modules written in JavaScript with the C environment, facilitating **cross-language** functionality between **C** and **WebAssembly**.
- Software Engineer, Digikala (Onsite), Tehran August 2022 - November 2023
    - Developed and maintained **high-traffic web applications**, with over 40 million views per month, for **Iran's leading e-commerce platform**, utilizing technologies such as PHP, Kafka, and others.
    - Orchestrated integration between Tax Government and **finance services** to streamline data flow and ensure compliance.
    - Authored comprehensive **tests** to fortify application robustness and reliability.
- Software Engineer, Utechia (Remote), Istanbul August 2021 - August 2022
    - Developed **REST API** applications using Node.js and the NestJs framework.
    - Utilized SQL and NoSQL databases including PostgreSQL and MongoDB.

Honors and Awards

- Ranked top **0.7%** among more than **150,000** participants in the nationwide university entrance exam for B.Sc. degree (Konkoor-E-Sarasari), September 2020.
- Ranked 1st at Bahonar High School, Tehran.

Projects

- Spectral Clustering implementation using Python for my Linear Algebra course, Fall 2023
- Gitlab Assignment Manager web application using Django for my System Analysis & Design course, Fall 2023
- DNS Proxy application using Python for my Computer Networks II course, Spring 2023
- Java-based project encompassing the implementation of Data Access Objects (DAO) and Model Wrappers for database models in SQL using JDBC for my Principles of Database Design course, Fall 2022
- DigDug game project developed using JavaFX for my Advanced Programming course, Spring 2021

    Link: github.com/mohammad-shahabadi/digdug
- Matrix Calculator project developed using native C language for my Fundamentals of programming course, Fall 2020

    Link: github.com/mohammad-shahabadi/MatrixCalculator

Skills

- **Programming:** Python, Java, Typescript, Javascript, C , C++
- **Technologies:** NestJs, Django, Spring Boot
- **Tools :** PostgreSQL, MongoDB, Redis, Docker, Git, Kafka, Linux
- **Deep Learning & Machine Learning:** NumPy, Pandas, Pytorch

- **General:** Microsoft Office (Word, Excel, PowerPoint), LaTeX, Markdown

Language Skills

- English Fluent, full professional proficiency
- Persian/Farsi Native, National language

References

- **Dr. Martin Henz,** Associate Professor in the School of Computing in NUS

  Dr.rer.nat. : Computer Science, Saarland University, 1997

  M.S. : in Computer Science, Stony Brook University, 1993

  Email: henz@comp.nus.edu.sg

- **Dr. Mehdi Esnaashari**, Professor of CE Department

  Ph.D. : Computer Engineering (Artificial Intelligence), Amirkabir University of Technology (Tehran Polytechnique), Iran, Oct. 2011.

  Email: esnaashari@kntu.ac.ir

- **Dr. Behrooz Nasihatkon**, Professor of CE Department

  Ph.D. : Computer Vision, School of Information Sciences & Engineering, The Australian National University, Australia,

  Email: nasihatkon@kntu.ac.ir