

Reza Mashayekhi

Software Developer

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Highlights

- Software Developer with 5+ years of experience in programming gained through a combination of academic and industry exposure. Skilled in Backend Development, Frontend Development, OOP, Data Structures, Algorithms, Databases, Testing and Debugging, and Version Control.
- Backend Developer Intern at Oracle.
- Ranked 1st GPA Among the Graduated CS Students of Amirkabir University of Technology (2020, Iran).
- Awarded International Mathematics Competition (IMC 2010 Korea) Certificate - Only 20 middle school students, after two-stage competitive acceptance exams, were selected from Iran to participate in IMC 2010 Korea.

Work Experience

Backend Developer Intern

11/2022 - 03/2023

Oracle, Remote, Canada

- Enhanced the performance of the Data Studio web application through analysis and optimization of SQL queries (up to **5× fewer** queries in one of the most commonly used endpoints).
- Developed a query counter filter and assessed queries over 130 test classes while resolving conflicting tests. This resulted in finding endpoints that need improvement and helped avoid unnecessary queries in the future.
- Resolved bugs in web services and implemented automated tests to ensure quality and stability.
- Java, REST API, Spring Boot, SQL, Hibernate, Unit Testing, Git, Jira, Confluence, Multi-threading

Software Developer RA

05/2021 - 10/2022

University of Alberta and Alberta Machine Intelligence Institute, Edmonton, Canada

- Designed and developed new different ways to improve the FastMap heuristic 🧠.
- Tested new heuristics against a large number of standard benchmark problems on 395 maps in parallel.
- Attained up to **2.5× better** performance. (useful in pathfinding of Video games)
- C++, Algorithms, Cloud Computing, Bash, Python, Automated Testing, Parallel Computing

Teaching Assistant

01/2021 - 04/2021

University of Alberta, Edmonton, Canada

- Introduction to the Foundations of Computation II - Python.

Education

M.Sc. in Computer Science

01/2021 - 06/2023

University of Alberta, Edmonton, Canada

B.Sc. in Computer Science

09/2016 - 07/2020

Amirkabir University of Technology, Tehran, Iran

Skills

Languages: Java, Python, C++, JavaScript, C#, C, Bash, SQL, XML, HTML, CSS
Domains: Object Oriented Programming (OOP), Data Structures, Agile
Tools: Git, RESTful API, Unix (Linux), MySQL, JSON, Docker, Jenkins, Jira, Confluence
Frameworks/libs: JUnit, Mockito, ORM (Hibernate), Spring, React, ASP.NET, Django
Soft Skills: Problem-Solving, Detail-Oriented, Communication, Time Management

Selected Projects

Weather Web App ☞

- Building a weather app with user authentication, database interaction, and routing.
- C#, ASP.NET Core MVC, Entity Framework, SQLite, HTML, Bootstrap, CSS

Simulated Different 3D Objects Using Ray Tracing ☞

- Simulated Cylinder and Tetrahedron using Ray Tracing.
- Intro to Computer Graphics course - JavaScript, WebGL, HTML

Ping Pong Web App ☞

- Built a Ping Pong video game that can be played against a computer using React components, states, and hooks.
- React, JavaScript, HTML, CSS, Docker

Movies' Rating Web App ☞

- Built a movie web application that you can do CRUD operations on movies and rate them. Includes routing, ORM, and Django template language.
- Django, Python, HTML, CSS, SQLight

Designing and Creating A 3NF Database From YAGO Datasets ☞

- Extracted information from raw files on max plank institute website. Processed and Clustered TSV files with Python and MySQL. Designed and created a 3NF database.
- Database course - SQL, MySQL, Python, Relational Database (RDBMS) Design

Artificial Intelligence for the Reversi Board Game ☞

- Implemented the AI system of the Non-player-character using the Minimax algorithm. A player can play against the computer.
- AI course - Java, Algorithms

A 2D Version of the Range-Tree Data Structure ☞

- Implemented a 2D version of the Range Tree. Queries are asked in the form of rectangle coordinates.
- Data Structures course - Java

A Bilingual WordNet ☞

- Built a bilingual Wordnet by doing word sense disambiguation (WSD) on an English-Persian bitext.
- Computational Semantics course - Python, Java, XML, NLP, NLTK

Publication

R.Mashayekhi, D.Atzmon, and N.Sturtevant 2023. Analyzing and Improving the Use of the FastMap Embedding in Pathfinding Tasks - AAAI Conference on Artificial Intelligence. In press.