

# Reza Mashayekhi

Software Developer

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## Highlights

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- Skilled Software Developer with 5+ years of experience in programming gained through a combination of academic and industry exposure. Proficient with Backend and Frontend Development technologies, Algorithms, Data Structures, ML, NLP, Databases, Testing, APIs, and Version control.
- Backend Developer Intern at Oracle.
- Ranked 1<sup>st</sup> 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

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### 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 and Implemented automated tests to ensure quality and stability.
- Java, REST API, Multi-Threading, Spring, SQL, Hibernate, Unit Testing, Git, Jira, Confluence

### Backend 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++, AI, Cloud Computing, Bash, Python, Automated testing

### Teaching Assistant

01/2021 - 04/2021

University of Alberta, Edmonton, Canada

- Introduction to the Foundations of Computation II - Python.

## Education

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### M.Sc. in Computer Science

01/2021 - 10/2022

University of Alberta, Edmonton, Canada

### B.Sc. in Computer Science

09/2016 - 07/2020

Amirkabir University of Technology, Tehran, Iran

## Skills

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**Languages:** Java, Python, C++, C, JavaScript, SQL, Bash, XML, HTML, CSS  
**Domains:** Algorithms, Data Structures, Databases, ML, NLP, OOP, Agile Methodology  
**Tools:** MySQL, Git, Rest API, WebGL, Linux, JSON, Jira, Confluence, Jenkins  
**Frameworks/libs:** Spring, Hibernate, JUnit, Mockito, React, Angular  
**Soft Skills:** Problem Solving, Attention to Detail, Communication, Time Management

## Selected Projects

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### Simulated Different Objects Using Ray Tracing

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

### 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

### 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, RDBMS Design

### 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

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**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.

## Selected Certificate

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- Learning Java Threads (LinkedIn Learning)