

Nima Ebrahimi

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Summary

I am a motivated Computer Science graduate from Amirkabir University of Technology. I'm currently a software engineer and really interested in understanding systems from first principles and building core technologies from scratch. I am looking for remote or on-site research positions to extend my knowledge and experience.

Research Interests

- Distributed Systems
- Database Systems
- Blockchains
- IoT
- Reinforcement Learning
- Software Engineering

Education

Amirkabir University of Technology (Tehran Polytechnic)

Sep 2021 – May 2025

BS in Computer Science

GPA: 3.85/4.0

Coursework: Data Structures & Algorithms, Operating Systems, Computer Networks, Compiler Design, Programming Languages, Artificial Intelligence, Theory of Computation, Deep Learning, Cryptography.

Work Experience

Software Engineer

Tehran

Andishe Computer

Sep 2025 – Present

- Contributed to a Go microservice platform to serve as a data hub integrating national electricity providers with the Tavanir power organization.
- Built the core communication layer using gRPC for synchronous calls and RabbitMQ for event-driven asynchronous messaging.
- Dramatically improved system performance and reduced latency by implementing a Redis caching solution for frequently accessed data and reports.

Software Engineer

Tehran

Tamin ICT

Aug 2023 – Sep 2023

- In the role of back-end developer, developed RESTful APIs for insurance services. And developed several useful handlers in the business holder user panel.
- Also took part in front-end for implementing the interactive web objects with angular.

Academic Experience

Teacher Assistant

Amirkabir University of Technology

- **Design and Analysis of Algorithms**, Dr. Ahmadian *Fall 2025*
- **Artificial Intelligence & Workshop**, Dr. Ghatee *Spring 2025*
- **Advanced Programming**, Dr. Ghatee *Fall 2024*
- **Fundamentals of Programming**, Dr. Ghorbanali *Spring 2024*
- **Numerical Analysis**, Dr. Nasr *Fall 2023*

Selected Projects

BusTub

CMU DB Project

BusTub is a relational database management system built at Carnegie Mellon University for the Intro to Database Systems (15-445/645) course. I implemented thread-safe Bufferpool Manager with LRU-K Replacement Policy and B+Tree with concurrency control.

Redis Clone in Go

[link](#) 

Developed a Redis clone in Go implementing the Redis Serialization Protocol (RESP) for client-server communication. The project supports core string, list, and stream commands, persists data by generating RDB files, and is designed to function as either a master or a replica to enable scalable data replication.

Bitcoin Blockchain in Go

[link](#) 

Built a Bitcoin blockchain clone from scratch in Go, featuring a Proof-of-Work (PoW) consensus mechanism, secure transaction validation using cryptographic hashing, and a dynamic difficulty adjustment algorithm for block mining.

Minecraft server plugin

[link](#) 

Designed and built a TNT Tag minigame plugin for Minecraft servers using Java and the Spigot API. The plugin creates a competitive experience with a robust matchmaking system, leaderboards, and persistent player stats, while ensuring broad accessibility through multi-version game support.

Fake News Detector

[link](#) 

Developed a fake news detection model using Python, applying NLP with NLTK and Scikit-learn for text preprocessing. The project involved training and comparing various machine learning and deep learning models, including an LSTM network with TensorFlow/Keras, to effectively classify news articles.

Online Courses

Intro. to Database Systems, Carnegie Mellon University

Distributed Systems, MIT

NMA Deep Learning interactive course, Neuromatch Academy

Technologies

- | | |
|---|---|
| ◦ Languages: Go, Python, C++, Java | ◦ Databases: MySQL, Redis, MongoDB |
| ◦ AI: PyTorch, Numpy, Pandas, Matplotlib | ◦ DevOps: Docker, Kubernetes, Git |

Languages

- | | |
|---|--------------------------|
| ◦ English: Full Proficiency, IELTS Academic 8.0 (Reading 8.5, Listening 9, Speaking 7.5, Writing 7.5) | |
| ◦ Deutsch: Basic, A2 | ◦ Persian: Native |