

# Kianoush Arshi

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## EDUCATION

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### University of Tehran

BSc in Computer Engineering (Software)

2019–2024

Cumulative GPA: 18.53/20.00

## SKILLS

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**Programming Languages:** Python, Golang, Solidity, C++, C, Java, Bash, Javascript

**Technologies and Paradigms:** Blockchains, Smart Contracts, Zero Knowledge Proofs, Web3 and DeFi

**Tools and Frameworks:** Foundry, gnark, Slither, ReactJS, Docker, Spring, Maven, Django, Web3.py

**Languages:** English(Fluent, **IELTS score 8**), Persian(Native), German(Beginner)

## EXPERIENCE

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### Hong Kong University of Science and Technology

Research Intern

Hong Kong

Summer 2023-Fall 2023

- Utilizing Zero Knowledge Proofs for Blockchains

### University of Tehran

Research Assistant

Iran

Spring 2022-Spring 2023

- Smart Contract Security Audits
  - \* Participated in Code4rena Security Audits
- A Comparative Analysis of MEV Transactions Pre- and Post-Ethereum Merge
  - \* Designed an MEV transaction classifier
  - \* Analysed arbitrage and liquidation transactions before and after the merge
- Monero Miner Detector
  - \* Developed a Monero Miner Classifier for network packets
  - \* Attempted to optimize the detector by filtering out network packets based on their frequency

Spring 2023

Fall 2022-Winter 2023

Spring 2022

### Teaching Assistant

Fall 2020-Spring 2023

- Formal Languages and Automata Theory - [Dr. Hojjat](#)

Fall 2021-Spring 2023
- Artificial Intelligence - [Dr. Yaghoubzadeh](#), [Dr. Fadaei](#)

Fall 2022-Spring 2023
- Engineering Probability and Statistics - [Dr. Bahrak](#)

Fall 2022
- Compiler Design and Programming Languages - [Dr. Ghassemi](#)

Spring 2022
- Advanced Programming - [Dr. Khosravi](#)

Fall 2021-Spring 2022
- Introduction to Computing Systems and Programming - [Dr. Moradi](#)

Fall 2020 and Fall 2021

### Divar

Full-stack Web Developer

Iran

Summer 2021

- Developed a platform with many different applications
- Utilized several software developing tools and frameworks including Docker, Celery, Django, etc...

## NOTABLE PROJECTS

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### MEV Inspector

Implemented an MEV transaction classifier on Ethereum:

Python, Web3.py, AsyncIO, PostgreSQL

- Classified and analyzed blockchain transactions involving MEV
- Used multiprocessing and asyncio to optimize data collection performance

### Bitcoin Protocol and Mechanisms

Crypto Currency Course

Two projects:

Python, Bitcoinlib

- Evaluated the consensus protocol of Bitcoin using probabilistic analyses.
- Implemented Bitcoin address generation, transaction mechanisms, and mining.

### Oak

Internet Engineering Course

Implemented a project similar to Amazon marketplace

Java, Docker, Spring, ReactJS, Maven

### Smart Pot

Cyber Physical Systems Course

Implemented an automated plant irrigation manager

C++, Arduino

### Distributed Sentence Formatter

Distributed Systems Course

Implemented a distributed sentence formatter using Golang.

Golang

### Data Platform

Divar Internship

A feature-rich data platform implemented in Django.

Python, Django, Celery, PostgreSQL

### New features for xv6 OS

OS Course

Added new features including new system calls, scheduling systems, hotkeys, etc.

C

### TCP Server

Computer Networks Course

An implementation of a TCP server with congestion controls and sliding window.

C++

### Image Classifier

AI Course

Two neural networks projects:

Python, NumPy, Pandas, TensorFlow, Scikit-Learn

- Implemented a feed-forward neural network from scratch.
- Developed an animal classifier using Tensorflow.

### CMM Compiler

Compiler Course

A compiler for a new functional Language called CMM. The project had four phases:

Java, ANTLR, Jasmin

- Grammar specification
- Type Analysis
- Name Analysis
- ByteCode Generation

## CERTIFICATES

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### Programming with Google Go

Coursera

Instructed by Ian Harris (Irvine)

Winter 2023

### Blockchain

Coursera

Instructed by Bina Ramamurthy (Buffalo)

Winter 2023

### Decentralized Finance (DeFi): The Future of Finance

Coursera

Instructed by Cam Harvey (Duke)

Summer 2022