Kianoush Arshi

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Education

University of Tehran 2019–2024
BSc in Computer Engineering (Software) Cumulative GPA: 18.53/20.00

Skills

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

Hong Kong University of Science and Technology Hong Kong
Research Intern Summer 2023-Fall 2023

- Utilizing Zero Knowledge Proofs for Blockchains

University of Tehran Iran
Research Assistant Spring 2022-Spring 2023

- Smart Contract Security Audits Spring 2023
  - Participated in Code4rena Security Audits
- A Comparative Analysis of MEV Transactions Pre- and Post-Ethereum Merge Fall 2022-Winter 2023
  - Designed an MEV transaction classifier
  - Analysed arbitrage and liquidation transactions before and after the merge
- Monero Miner Detector Spring 2022
  - Developed a Monero Miner Classifier for network packets
  - Attempted to optimize the detector by filtering out network packets based on their frequency

Teaching Assistant Fall 2020-Spring 2023

- Artificial Intelligence - Dr. Yaghoubzadeh, Dr. Fadaei Fall 2022-Fall 2023
- Formal Languages and Automata Theory - Dr. Hojjat Fall 2021-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 Iran
Full-stack Web Developer Summer 2021

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

Notable Projects

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
- Name Analysis
- Type Analysis
- ByteCode Generation

Certificates

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