ALIREZA ARBABI

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EDUCATION

University of Tehran 2020 - present

B.Sc. in Computer Engineering (Software) University of Tehran

- Total GPA: 17.77/20 (3.8/4)

- Selected courses: Artificial Intelligence (4/4), Data structure and Algorithm (4/4), Design of Algorithm (4/4), Cryptocurrencies (Audit), Engineering Probability and Statistics (4/4), Advanced Programming (4/4), Operating systems (4/4)

Allameh Tabataba'i high school 2018 - 2020

Diploma in Mathematics and Physics

- Total GPA: 19.56/20

RESEARCH INTERESTS

- Blockchain Technology and Cryptography / Decentralized Systems

- Artificial Intelligence and Machine Learning

- Software Engineering

PUBLICATIONS

RPoA: Redefined Proof of Activity

S. kamali, S. Shabihi, T. Fakharian, **A. Arbabi**, P. Tajmehrabi, M. Saadati, B. Bahrak.

RESEARCH/WORK EXPERIENCE

Research Assistant on Blockchain Feb 2022 - Present

University of Victoria *Victoria, Canada*

Under supervision of Ardeshir Shojaeinasab and Prof. Behnam Bahrak

Currently, we are working on fraud detection patterns in transaction graphs of the bitcoin network by using graph theory and social network techniques.

Research Assistant on Blockchain Jul 2022 - Feb 2022

Data Analysis Lab, University of Tehran *Tehran, Iran*

Under supervision of Prof. Behnam Bahrak

We were working on an alternative consensus protocol based on Proof of Activity to combine the benefits of using both the PoS and PoA protocols and also reduce the power costs of the original PoA consensus. As a proof of concept, we implemented a cryptocurrency for storing files (Blockchain-based Decentralized file sharing system) called Crystalline. The research has been finished and is currently being finalized.

SKILLS

Programming: C/C++, Python, LaTeX, JavaScript(Node JS), R, Verilog
Paradigms: Git(Version Control), Docker, NoSQL/SQL database systems, REST-API design, OOP, MakeFile
Operating Systems: Ubuntu Linux, Microsoft Windows

TEACHING ASSISTANT EXPERIENCE

Artificial Intelligence   Spring 2023
Prof. Yadollah Yaghoobzadeh and *Dr. Hakimeh Fadaei*

Engineering Probability and Statistics   Fall 2022
Prof. Behnam Bahrak

Data Structure and Algorithm   Fall 2022 - Spring 2023
Prof. Hesham Faili and *Prof. Fathieh Faghih*

Introduction to computing systems and programming   Fall 2022
Prof. Hadi Moradi and *Prof. Mahmoodreza Hashemi*

PROJECTS

Crystalline
Crystalline is a cryptocurrency powered by Redefined proof of activity(RPoA), developed as a proof of concept on pure python. This project has been finished and is currently being finalized.

Node social media
This was a final project of the backend summer course at the University of Tehran, ACM chapter. In this course, I learned the fundamental of backend programming, NoSQL databases(MongoDB), Computer networks, and how to use documentation in projects. The project was coded with Node JS environment.

MIPS Processor
An implementation of MIPS processor with single/multi-cycle architecture based on Verilog-HDL programming language as a Final project of the Computer Architecture course. This processor has 16 different operations to perform Tasks.

GoodEats Web
A simple web application powered by APHTTP as a final project of the Advanced Programming course. The back end of this project was written in C++, and the front end of this Project was coded with HTML/CSS. This Project was implemented with OOP, Polymorphism, and Inheritance paradigms.

Linear Regression Calculator
This was the first project of the Computer Architecture course. In this project, we were asked to write a program with Verilog-HDL language which can find the best regression model that fits to the given binary inputs.

UTmessenger
This was the final project of the ICSP course. In this project, we implemented a local messenger in C language.

Socket-Programming-Market
This project is a client-server model implementation of a MARKET using Socket Programming in C language, as a first project of the Operating Systems course.

HONORS AND AWARDS

- **Being in (Top 0.6%) in Konkour**, National Organization of Educational Testing (NOET)
- **Received scholarship**, Supporter Foundation of the University of Tehran

LANGUAGES

English   Advanced
Persian   Native
German   Beginner