

Alireza ARJMAND SHAKOURI

ECE Master's Student, University of Alberta

@ arjmands@ualberta.ca

ETLC – Engineering Teaching and Learning Complex 116 St NW, Edmonton, AB T6G 2V4

EDUCATION

Present September 2021	M.Sc. in Electrical and Computer Engineering, UNIVERSITY OF ALBERTA, EDMONTON, CANADA, Thesis based Master's program with a focus on Blockchain security and scalability > GPA : 3.9/4
September 2020 September 2015	B.Sc. in Software Engineering, SHARIF UNIVERSITY OF TECHNOLOGY, TEHRAN, IRAN, I built a flexible wifi dongle using Raspberry Pi as my BSc thesis
September 2015 June 2014	Preparation for International Olympiad, YOUNG SCHOLARS CLUB, TEHRAN, IRAN, One year preparation program for top 10 national students in Astronomy and Astrophysics.
June 2015 September 2011	High School Diploma in Mathematics and Physics, ALLAMEH HELLI HIGH SCHOOL, TEHRAN, IRAN, Affiliated with National Organization for Development of Exceptional Talents.

RESEARCH EXPERIENCE

Present September 2021	Research Assistant, UNIVERSITY OF ALBERTA, Research on blockchain economic security, MEV mitigation and smart contract security > Supervised by Prof. Majid Khabbazi > Department of Electrical and Computer Engineering, University of Alberta, Edmonton, Canada
August 2021 September 2020	Research Assistant, SMART AND SECURE SYSTEMS LABORATORY, SHARIF UNIVERSITY OF TECHNOLOGY, Study of Post-Quantum Cryptography in Blockchain > Supervised by Prof. Siavash Bayat-Sarmadi > Department of Computer Engineering, Sharif University of Technology, Tehran, Iran

HONORS AND AWARDS

2015	IOAA Silver Medal (International Olympiad on Astronomy and Astrophysics), An annual International Astronomy and Astrophysics competition for all qualified high school students around the globe.
2014	Iranian National Astronomy Olympiad Gold Medal, An annual astronomy and astrophysics competition for high school students in Iran.
2013	Iranian National Astronomy Olympiad Bronze Medal

EXPERIENCE

Present January 2023	Smart Contract Auditor, SELF EMPLOYED, Remote Participating in audit contests held by Code4rena, Sherlock and Immunefi to make the web3 space safer. Bugs found : 5 highs and 8 (1 unique) mediums in 4 contests > Overall Winnings : 34,849.55 USD > Code4rena last 60 days ranking : 20 > Sherlock ranking : 20
January 2023 September 2022	Implementing Time-locks on Ethereum transactions to mitigate MEV, MITACS, AQUANOW, Remote Funded by Ethereum foundation , we assembled a team to research and implement Time-locks on public mempool transactions. Where we identify the existing encryption methods and enable Go-Ethereum code to send and receive Time-lock encrypted transactions.

July 2022	Blockchain Researcher Intern, MITACS, DOCUSAFE, Remote
February 2022	Document verification with the help of Blockchain technology.
August 2020	Embedded Software Intern Developer, SHARIF UNIVERSITY OF TECHNOLOGY, TEHRAN , IRAN,
June 2020	An internship towards my B.Sc Thesis to build a flexible WIFI dongle.
May 2019	Front-End Developer, SNAPPFOOD, TEHRAN, IRAN,
January 2019	Snappfood is the leading food delivery service in Iran.
January 2017	Front-End Developer, LYAN, TEHRAN, IRAN,
January 2016	Lyan was an online market.

NOTABLE PROJECTS

2022	MEVoila, Ethereum malicious pattern detector , A Javascript based application that crawls and replays Ethereum's transactions in order to extract malicious patterns related to gas auctions and censorship
2020	Building a flexible WIFI dongle with Raspberry Pi Zero W A project done towards the Bachelors Thesis. We used a Raspberry Pi that connected to another board with the aim of carrying certain configurations and providing internet by connecting to an access point.
2019	Design and Implementation of RASA PWA , A React based web application, designed for Architects of all levels to showcase their portfolio.
2019	Design and Implementation of Nafis PWA , A React based web application, designed for storage management of a store.
2018	Design and Implementation of a Banking PWA , A React based web application done as a university project for "Analysis and design of systems" course.
2018	Implementation of a Peer to Peer network , As a university project for "Computer Networks" course.
2016	Children Of Our Time : Multiplayer Game with Java , As a university project for "Advanced Programming" course.
2019	Quizon for IOS , An IOS quiz app as a university project for "Mobile Programming" course written with Swift.

SKILLS

Programming Languages	C/C++, Java, Python, Solidity, Huff, Swift
Markup Languages	HTML, CSS
Scripting Languages	Javascript, Bash, MATLAB
Development Environment	Foundry, Hardhat, Truffle
Popular Libraries	React.js, Express.js, Mongoose.js, Numpy
Mobile Development	Android Development, IOS Development
Data Query Languages	SQL
Runtime Environments	Node.js
Tools	Packet Tracer, Wireshark , Quartus, Modelsim

TEACHING EXPERIENCE

Fall 2022	Teaching Assistant, ECE 582 Information Theory and Channel Coding, Professor Majid Khabbazzian, University of Alberta , Grading Assignments, Quizzes, Exams, and helping students with their questions
Fall 2022	Teaching Assistant, ECE 312 Embedded System Design, Professor Edmond Lou and Mr. Loren Wyard-Scott, University of Alberta , Grading Assignments, Helping students on Assignments
Winter 2022	Teaching Assistant, ECE 421 Exploring Software Development Domains, Professor James Miller, University of Alberta , Grading Assignments, Helping students on Assignments
fall 2019	Teaching Assistant, CE 40419 Web Programming, Mr. Behnam Hatami, Sharif University of Technology , TA Session Teacher, Project Design and Grading
2015	Preparation for National Astronomy Olympiad , Allameh Helli High school, Tehran, Iran
2015	Preparation for National Astronomy Olympiad , Farzanegan High school, Tehran, Iran
2015	Preparation for National Astronomy Olympiad , Mazandaran Province, Iran

CERTIFICATIONS

2019	Test of English as a Foreign Language (TOEFL) (107/120), R:26 L:29 S:29 W:23
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OUTREACH AND VOLUNTEERING

- 2022 **Member of ISAUA(Iranian Students' Association of University of Alberta)**, Helped with setting up the ceremonies, and their website maintenance.
- 2015 **Astronomy preparation classes for high school students**

LANGUAGE PROFICIENCY

English	●	●	●	●	●
Persian	●	●	●	●	●
French	●	○	○	○	○

REFERENCES

Available upon request