Amir Ali Vahidi Noghani

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EDUCATION

University of Tehran   Sep 2020 - Present (Expected July 2025)
B.Sc. in Computer Engineering

Total GPA: 17.32/20 (3.71/4) (Faculty Average: 14.96/20)

Notable Courses:	Foundations of Data Science	19/20
	Algorithm Design	18.5/20
	Introduction to Distributed Computing	19.8/20

RESEARCH INTERESTS

– Security & Privacy
– Distributed Systems
– Blockchain & Applied Cryptography

RESEARCH EXPERIENCE

Research Assistant - Network Lab   Fall 2024 - Present
Under the supervision of Professor Ahmad Khonsari and Professor Mahdi Dolati

Developing and analyzing an estimator to enhance hardware utilization for managing heterogeneous accelerators in deep learning training and inference tasks.

PROFESSIONAL EXPERIENCES

Intern - Hamrahe-Aval (Mobile Communication Company of Iran, MCI)   Summer 2023

During my internship at Hamrahe-Aval, Iran's largest telecommunication company, I was assigned to solve a critical challenge in the field of Intrusion Detection Systems (IDS). The project involved designing a system capable of processing approximately 500,000 incoming messages per second while ensuring that the entire process—from unpacking and validating the messages against predetermined rule sets to repacking and forwarding the valid ones—was completed within strict time constraints to prevent network congestion. The task was centered around GSM technologies, with a strong foundation in 3G and 4G networks. It required a thorough evaluation of system architecture, language selection, and communication protocols to optimize both speed and efficiency.

Blockchain Course Instructor, ACM Summer of Code   Summer 2024

Me and Pouria Tajmehrabi delivered comprehensive lectures on blockchain fundamentals, including symmetric and asymmetric cryptography, Bitcoin's consensus mechanism, and Ethereum smart contract development at the University of Tehran. Course materials are freely available at this link.

PROJECTS

XV6-Modified   Link to Project

A group project written in c and c++. This project is a modified xv6 operating system with several extra features. xv6 is a re-implementation of Dennis Ritchie's and Ken Thompson's Unix Version 6 (v6).

Congestion Control Mechanisms Simulation in Computer Networks [Link to Project](#)

Designed and analyzed simulations for TCP Reno, New Reno, and BBR congestion control algorithms, comparing performance metrics like throughput and latency across various network conditions.

Transaction in Bitcoin Testnet Network Using Python [Link to Project](#)

This project focuses on using python-bitcoinlib to generate a Bitcoin testnet address, craft single-input, dual-output transactions with a P2PKH script, and execute multisig transactions involving three addresses. It also involves mining a block on the testnet, demonstrating practical skills in Bitcoin testnet operations, including address generation, transaction creation, multisig scripting, and testnet mining.

ERC20 Token Deployment on Ethereum Testnet [Link to Project](#)

This project involves developing and deploying an ERC20 token on the Ethereum testnet using Solidity. It features ERC20 compliance, controlled minting with a global cooldown mechanism, and cryptographic proof for secure token issuance.

Teaching Experience

Introduction to Computing Systems and Programming Oct 2022 - Spring 2023
Dr.Hashemi and Dr.Moradi

Computer Networks Sep 2023 - Summer 2024
Dr.Khonsari

Advanced Programming Sep 2023 - Present
Dr.Ramtin Khosravi

Computer Networks Sep 2024 - Present
Dr.Yazdani

Software Testing (Head TA) Sep 2024 - Present
Dr.Khamespanah

Skills

Programming	Proficient: Python, C/C++. Intermediate: SQL,Solidity
Tools and Technologies	Git (Version control system), Docker, ZMQ, Makefile
Paradigms	Relational Database Systems, html & css
Operating Systems	Linux, Microsoft Windows

Honors & Awards

2020	Ranked 140th in Iran's National University Entrance Exam (among top 0.1 percent of participants)
June 2023 - August 2024	Chief Elected Official of Computer Engineering Student Association of Tehran University (also known as Student Branch of ACM) (visit ut-acm.ir for more info)

Volunteering & Leadership

I led the 'Summer of Code' internship at the University of Tehran, mentoring 80+ students, organized a welcome event for 200+ new ECE students, and coordinated an ICPC with 200+ participants as Chair of the ACM Student Branch.