Amir Ali Vahidi Noghani

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EDUCATION

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

Total GPA: 17.32/20 (3.71/4) (Faculty Average: 15.01/20)

Notable Courses:		
	Foundations of Data Science	18.4/20
	Computer Networks	17.1/20
	Algorithm Design	18.5/20

RESEARCH INTERESTS

– Blockchain & Cryptography

– Computer Security

– Data Science

PROFESSIONAL EXPERIENCES

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

As an intern at Hamrahe-Aval, I had the privilege of gaining valuable insights into the dynamic realm of mobile communications, particularly focusing on GSM technologies with a foundational understanding of 3G and 4G. My primary focus within the company was on Intrusion Detection Systems (IDS).

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, executed, and analyzed simulations for TCP Reno, New Reno, and BBR congestion control algorithms in computer networks. Collected and compared performance metrics, such as throughput and latency, under diverse network conditions. The project showcased my expertise in optimizing network performance and data-driven decision-making.

Transaction in Bitcoin Testnet Network Using Python   Link to Project

This project involves generating a dedicated testnet Bitcoin address and crafting transactions using 'python-bitcoinlib' and a testnet faucet. It includes creating single-input, dual-output transactions with a P2PKH script, executing a multisig script transaction with three addresses, and exploring a more complex transaction scenario. The project concludes by mining a block on the testnet network, showcasing practical expertise in Bitcoin testnet operations, including address generation, transaction crafting, 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 Assistance 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

Skills

Programming	Proficient: Python, C/C++. Intermediate: SQL,Solidity
Tools and Technologies	Git (Version control system), Docker, ZMQ, Jupyter Notebook, VS Code, Makefile, Familiar with Redis and Kafka
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

- Led the 'Summer of Code' internship program at the University of Tehran, mentoring over 80 participants in computer science.
- Organized a successful welcome event for new Electrical and Computer Engineering students, attracting over 200 attendees.
- Coordinated an Intercollegiate Programming Contest (ICPC) at the University of Tehran, drawing over 200 students from Computer Science and Mathematics.

Languages

English	Advanced, IELTS Academic: 8 (L:9, R:8.5, W:7, S:7)
Persian	Native