

RESEARCH INTERESTS

- Applied Cryptography
- Distributed Systems
- Blockchain
- Cyber Security
- Designing privacy-enhancing systems
- Secure Systems utilizing Cryptography

EDUCATION

9/2020 – Present

Computer Science Bachelor's Degree

Amirkabir University of Technology (Among **Top 3** in Iran)

- **GPA:** 3.5/4 (Related Courses: 3.8/4)
- **Thesis:** Enhancing Privacy in Decentralized Oracles using Homomorphic Encryption and MPC
- **Selected Courses:**
 - Cryptography: A+
 - Principles of Software Design : A
 - Computer System : A+
 - Operating Systems : A
 - Data Structures and Algorithm: A
 - Data Mining: A

RESEARCH

07/2023 – Present

Bifrost: Efficient and Secure Protocol for a Machine Learning Platform on Blockchain. [Website](#)

Rezaei A., Samiei H., Bejani MM. (In progress)

- Execute the experimental evaluation of the decentralized training protocol through rigorous simulations.
- Collaborated on designing decentralized protocol for the oracle consensus contract to enable trusted model evaluations.

ACADEMIC EXPERIENCE

07/2023 – Present

Undergraduate Research Assistant

Cryptography laboratory - Amirkabir University of Technology

- Working under supervision of [Dr. Mohammad Ali](#) for my bachelor thesis.
- Enhancing blockchain oracle design for improved user privacy and data integrity.
- Researched and reviewed oracles and protocols
 - [Chainlink 2.0: Next Steps in the Evolution of Decentralized Oracle Networks](#)
 - [DECO: Liberating Web Data Using Decentralized Oracles for TLS](#)
 - [TLSnatory: A mechanism for independently audited https sessions](#)

04/2023 – 07/2023

Undergraduate Research Assistant

Amirkabir University of Technology

- Worked under supervision of [Dr. Babak Sadeghian](#) and [Dr. Motahare Dehghan](#).
- Exploring anomaly detection techniques to proactively identify and mitigate vulnerabilities in blockchain-based systems through threat hunting.

08/2021 – Present

Teaching Assistant

Amirkabir University of Technology

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|---|---|-------------|
| • Cryptography 1(Graduate Course). | Instructor: Dr. Mohammad Ali | Fall 2023 |
| • Principles of Software Design. | Instructor: Dr. Ehsan Alirezaei | Fall 2023 |
| • Introduction to Programming in C. | Instructor: Dr. Sara Saeedi Madani | Fall 2022 |
| • Advanced Programming in Python. | Instructor: Dr. Mohammad Asgaripour | Winter 2021 |
| • Advanced Programming in Python. | Instructor: Dr. Farzane Salary | Fall 2021 |

EXPERIENCE

- 06/2023 – Present **Blockchain Engineer** [Nexarae](#)
- Nexarae is an upcoming decentralized oracle service designed to empower blockchain applications with real-world data, advanced off-chain computations, and privacy-preserving nature.
 - Implementing core smart contracts for Nexarae.
 - Simulating the network to find the optimal configuration of Nodes.
- 01/2023 – 06/2023 **Backend Software Engineer** [Shopino](#)
- Shopino is an emerging startup spun out of [Yektanet](#). The leading digital marketing firm with a cutting-edge technical team.
 - Architect and implement a web scraping system for crawling data.
 - Built a collision-resistant shortened URL service for Optimize SMS advertising costs.
 - This enabled immense cost reductions of over 80%.
- 8/2022 – 11/2022 **Backend Software Engineer** [Javane](#)
- Developed secure extension for **Divar** platform using cryptography techniques to enable safe peer-to-peer transactions.
 - Designing microservices and software architecture.
 - The secure extension feature provided vital fraud protections.
- 9/2019 – 1/2021 **Software Engineer (Full-stack developer)** [Freelance](#)
- An early undertaking was developing backend systems for **CWS** event.
 - Architecting registration infrastructure capable of handling substantial load.
 - Delivered 4+ projects

SKILLS

Programming Language	Python, Solidity, Javascript, C, C++
Frameworks	Node.js, Django, Scrapy
Database	PostgreSQL, MongoDB, Redis, Elasticsearch
Developer Tools	Nginx, Docker, Apache Kafka, Git, Latex

PROJECTS

Continuously Evolving Distributed Cloud Servers utilizing Raft for Consensus Self Employed Project	Report Code
Interactive RSA Encryption Oracle for Experimentation Cryptography 2 (Master Course)	Report Code
Custom Hash-Based URL Shortener with Robust Collision Avoidance Shopino Company Task	Report Code
Deep Neural Network for Handwritten Digit Recognition Data Mining Course	Report Code
Highly Optimized Concurrent Matrix Multiplication calculator Computer System Course	Report Code