

SEYYED HOSSEIN SAMIEI

UNDERGRADUATE STUDENT OF COMPUTER SCIENCE

Tehran, Iran

seyhsamiei@gmail.com

(+98)9107895232

seyhsamiei

My Website

seyhsamiei

EDUCATION

9/2020 – Present **Computer Science Bachelor's Degree**

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

- GPA: 3.46/4 (Related Courses: 3.8/4)
- Thesis: Enhancing Privacy in Decentralized Oracles using Homomorphic Encryption.
- Selected Courses: Cryptography: A+, Principles of Software Design : A+, Computer System Fundamentals: A+, Data Mining: A+, Operating Systems : A+, Data Structures and Algorithm: A+, Advanced Programming: A+.
- Ranked Within the Top 1% (among 144,437 students) in Iranian University Entrance Exam.

RESEARCH INTERESTS

- Blockchain
- Distributed Systems
- Software Engineering
- Cryptography
- Cloud Computing
- Applied Machine Learning

RESEARCH

07/2023 – Present **Enhancing the Privacy of Decentralized Oracles using Homomorphic Encryption and Secure multiparty computation.**

Samiei H., Ali M. (In progress)

07/2023 – Present **Bifrost: Efficient and Secure Protocol for a Machine Learning Platform on Blockchain.** [Website](#)

Rezaei A., Bejani MM., Samiei H. (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

08/2021 – Present **Teaching Assistant**

Amirkabir University of Technology

- Introduction to Cryptography(Current Semester), Instructor: [Dr. Mohammad Ali](#)
- Principles of Software Design(Current Semester), Instructor: [Dr. Ehsan Alirezaei](#)
- Introduction to Programming in C(Winter 2022), Instructor: [Dr. Mahmoud Reza Hashemi](#)
- Introduction to Programming in C (Fall 2022), Instructor: [Dr. Sara Saeedi Madani](#)
- Advanced Programming in Python(Fall 2022), Instructor: [Dr. Mohammad Asgaripour](#)
- Advanced Programming in Python(Fall 2021), Instructor: Dr. Farzane Salary

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
 - TLSnotary: 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.

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



LANGUAGES

ENGLISH	Proficient
TOEFL iBT:	Will Be Taken(Oct 7th)
PERSIAN	Native

PROJECTS



Continuously Evolving Distributed Cloud Servers utilizing Raft for Consensus

Self Employed Project

 [Report](#)  [Code](#)



Interactive RSA Encryption Oracle for Experimentation

Cryptography 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](#)

REFERENCES

Mohammad Ali

Assistant Professor, AmirKabir University of Technology
mali71@aut.ac.ir

 [Google Scholar](#)

Mahdi Bejani

Assistant Professor, AmirKabir University of Technology
mohammad.mahdi.bejani@gmail.com

 [Google Scholar](#)

Motahare Dehghan

Assistant Professor, Tarbiat Modares University
motahareh479@aut.ac.ir

 [Google Scholar](#)

Alireza Darestani

Co-Founder & CEO at Shopino Company
alirezadarestani76@gmail.com

 [Linkedin](#)