

# Sina Kamali

School of Electrical and Computer Engineering, University College of Engineering, University of Tehran, Tehran, Iran.

☎ (+98) 912-393-5925 | ✉ sina-kamali@outlook.com | 🏠 kamali-sina.github.io | 📄 kamali-sina | 🌐 cnakamali | 📺 live:.cid.2ced95a3b881f4af

“Solving problems is the goal, no matter how large they are.”

## Education

### College of Electric and Computer Engineering, University of Tehran

Tehran, Iran

B.Sc. IN COMPUTER ENGINEERING (SOFTWARE ENGINEERING MAJOR)

Sep. 2018 - present

- Cum. GPA: 18.31/20 (3.91/4 in the U.S. GPA system)
- Related Courses: Cryptocurrency(19.7/20) · Computer Networks(18.3/20) · Engineering Probability and Statistics(18.6/20) · Internet Engineering(19.4/20) · Discrete Mathematics(20/20) · Data Structures(20/20) · Advanced Programming(19.7/20)

### Allame Helli 4 High School

Tehran, Iran

DIPLOMA IN MATHEMATICS AND PHYSICS

2012 - 2018

- GPA: 19.81/20
- As a part of the National Organization for Development of Exceptional Talents (NODET)

## Research Interests

- Blockchains and Cryptocurrency
- Cryptography
- Computer Network Security
- Computer Networks

## Publications

Sina Kamali, Taha Fakharian, Shayan Shabihi, Alireza Arbabi, Mohammad Saadati, Pouriya Tajmehrabi, Behnam Bahrak. "RPoA: Redefined Proof of Activity". To be Published.

## Research Experience

### Under the supervision of Prof. P. Shariatpanahi

University of Tehran

RESEARCH ASSISTANT

Jun. 2022 - present

We are researching the possibility of an attack on networks that use the combination of PoS-based protocols and DAG-based network protocols, to prove that using PoS in its current state with some DAG-based network protocols like SPECTRE is insecure.

### Under the supervision of Prof. B. Bahrak

University of Tehran

RESEARCH ASSISTANT

Aug. 2021 - present

We are working on an alternative consensus protocol based on Proof of Activity to combine the benefits of using both the PoS and PoA protocols. We have watched a series of courses and read an abundant number of papers on similar ideas. The research has been finished and is currently being finalized.

## Teaching Experience

### UNIVERSITY OF TEHRAN ACM STUDENT CHAPTER

**Cryptocurrency Course Instructor** SUMMER OF CODE

Jul. 2021 - Nov. 2021

### UNIVERSITY OF TEHRAN

**Supervising Teaching Assistant** DISCRETE MATHEMATICS, PROF. S. MOHAMMADI

Sep. 2021 - Aug. 2022

**Teaching Assistant** DISCRETE MATHEMATICS, PROF. S. MOHAMMADI

Jan. 2020 - Sep. 2021

**Teaching Assistant** COMPUTER NETWORKS, PROF. N. YAZDANI

Aug. 2022 - present

**Teaching Assistant** DATA STRUCTURES, PROF. H. FAILI, PROF. F. FAGHIH

Sep. 2020 - Aug. 2022

**Teaching Assistant** SOFTWARE TESTING, PROF. E. KHAMESPANAH

Sep. 2020 - Aug. 2022

**Teaching Assistant** ARTIFICIAL INTELLIGENCE, PROF. H. FAILI, PROF. F. FAGHIH

Sep. 2020 - Aug. 2022

**Teaching Assistant** DATA STRUCTURES, PROF. M. MORADI, PROF. Y. YAGHOOBZADEH, H. FADAEI

Jan. 2021 - Aug. 2022

## Honors & Awards

2020	<b>President</b> , University of Tehran ACM Student Chapter	<a href="#">Tehran, Iran</a>
2018	<b>Ranked 281 (Top 0.2%) in Konkour</b> , National Organization of Educational Testing (NOET)	<a href="#">Tehran, Iran</a>
2018	<b>Becoming a member</b> , Iran's National Elites Foundation (INEF)	<a href="#">Tehran, Iran</a>
2018	<b>Received scholarship</b> , Supporter Foundation of the University of Tehran	<a href="#">Tehran, Iran</a>

## Professional Developements

### Bitcoin and Cryptocurrency Technologies, Prof. Arvind Narayanan

[Princeton University, Coursera](#)

AN ONLINE CRYPTOCURRENCY COURSE

2020 - 2021

During this course, which was part of the master's program at Princeton University, I learned fundamental concepts regarding Bitcoin and other cryptocurrencies. I learned about how they achieve decentralization(!), how mining is done, alternative consensus protocols, etc. During this course, I implemented a simple blockchain network.

### Crystalline

[University of Tehran](#)

A CRYPTOCURRENCY POWERED BY A REDEFINED POA PROTOCOL

Aug. 2021 - Sep. 2022

Developed as a proof of concept on pure Python, this cryptocurrency incorporates a newly defined Proof of Activity as its primary consensus protocol. It was designed and researched by me and several other students of the University of Tehran.

### DMCB

[University of Tehran](#)

THE MODERATOR FOR DM CONTESTS OF UNIVERSITY OF TEHRAN

Jun. 2022 - Aug. 2022

Developed as a moderator for the discrete mathematics course at the University of Tehran. DMCB was created using the Django framework.

### Mini Kaggle

[Divar](#)

A KAGGLE CLONE MADE BY INTERNS AT DIVAR

Jun. 2021 - Sep. 2021

A Kaggle clone made using the Django framework as a learning project at Divar in the summer of 2021. We used several software developing tools and libraries including Docker, Celery, Pandas, and etc. I learned how to effectively work as a software development team during this time.

### Sins & Virtues

[University of Tehran](#)

A TEXT-BASED GAME CREATED AS A PASSION PROJECT

Feb. 2021 - present

Developed as a passion project. At first, it was programmed using Python, but after further consideration, it was rewritten using C++. The game encapsulates a rich set of fun mechanics. Follow this link to learn more.

## Work Experience

### Sotoon

[Tehran, Iran](#)

SOFTWARE DEVELOPER

Jan. 2022 - Aug. 2022

- Worked on deploying older software on Docker Swarm and Kubernetes clusters. Worked on the official "Sooton Cli" programmed using GoLang. Learned a great deal about working as a team in software development and the agile methodology.

### Divar

[Tehran, Iran](#)

SOFTWARE DEVELOPER INTERN

Jul. 2021 - Sep. 2021

- Learned a wide variety of software development tools in the workshops held by Divar. Some of these tools were Git(Professional), RPC protocols, Django Framework, Kubernetes, SQL, NO-SQL databases, etc. Furthermore worked on a small project in which we developed a Kaggle clone from scratch.

## Notable Academic Projects

### Smart Debt Handler

[Cryptocurrency](#)

A SMART CONTRACT MADE USING SOLIDITY

A smart debt handler similar to Splitwise, which tracks users' debts and updates them based on the loops users create between each other.

### BTC Address Maker

[Cryptocurrency](#)

AN ADDRESS MAKER MADE USING PURE PYTHON

This project was developed to further understand the math and explicit details of creating a key pair. This project can make any kind of famous key pairs in either the test net or the main net.

### FTP Server

[Computer Networks](#)

A FULLY FUNCTIONING FTP SERVER

A fully functioning FTP server with many capabilities implemented in C++ that uses socket programming to communicate with clients at a low level.

## IEMDB

*Internet Engineering*

A FULLY FUNCTIONING IMDB CLONE

A complete implementation of a website from scratch by me and my teammate. This project was developed using Java and Spring for the back-end, and React for its front-end. We have used tools like CI/CD pipelines, JDBC, JUnit, Github Oauth apps, etc.

## Network Function Simulation

*Computer Networks*

A SIMULATION OF NETWORK FUNCTIONS

A complete simulation of network functions created using C++. It supports various network components and uses multi-threading to run the simulations simultaneously.

## Multi-Threaded Prediction

*Computer Networks*

A MULTI-THREADED C PROGRAM THAT PREDICTS PRICES BASED ON TRAINED REGRESSION DATA

This project was created to toy with multi-threading concepts and to get more familiar with them.

## Skills

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### Programming

High Intermediate: C++, Python, GoLang

Intermediate: C, Java, Javascript

Beginner: Rust, Bash, LaTeX

### Technologies

Git, Docker, Docker Swarm, Kubernetes, Ansible, Makefile

### Software Engineering

Familiar with multiple object-oriented design patterns. Efficient with function-based designs. Fully familiar with Agile development and its concepts.

### Web Development

Django, Django Rest, React, Spring

### Operating Systems

Linux (Debian-based and Arch-based), MacOS

## Languages

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**Persian** Native

**English** Professional working proficiency · **TOFEL:** Test date: October 15, 2022