

# Farhad Keramat

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## Personal Information

Date of birth **January 5th, 1995**  
 Citizenship **Iran**  
 Residence **Kuohukuja 1 H 168, 20540 TURKU**

## Education

09/17 - 09/20 **MSc in Electrical Engineering** University of Tehran, Tehran, Iran  
*Major in Secure Communication and Cryptography*  
 09/13 - 08/17 **BSc in Electrical Engineering** University of Tehran, Tehran, Iran

## Current Position

09/21 - *present* **Project Researcher** Department of Future Technology, University of Turku  
 Researcher in the Turku Intelligent Embedded and Robotic Systems (TIERS) Group.

## Work Experience

09/19 - 08/21 **Software Engineer** Graph Inc, Tehran, Iran  
 Development of File Analysis Module for an Advanced Threat Detection Solution.  
 08/18 - 09/19 **Project Researcher** Secure Communication Lab. University of Tehran  
 Development of a pipeline for generating Speech Recognition Dataset for Farsi.  
 02/18 - 09/18 **Embedded Systems Developer** Farineh Fanavar Co., Tehran, Iran  
 Design and Development of Zigbee modules for Smart Home systems.  
 08/17 - 02/18 **Project Researcher** Mobile Communication Systems Lab. University of Tehran  
 Development of Network Monitoring System using Raspberry Pi board  
 Migration from IPv4 to IPv6

## Technical Skills

**Programming** Python, C/C++, Javascript, MATLAB  
**OS** Linux, Bash Scripting, Win32 APIs  
**Databases** LevelDB, PostgreSQL, Elasticsearch  
**Blockchain** Hyperledger Explorer, Solidity

## Teaching Assistant Experiences

|             |                           |                      |
|-------------|---------------------------|----------------------|
| Spring 2020 | Blockchain Theory         | University of Tehran |
| Spring 2019 | Blockchain Theory         | University of Tehran |
| Spring 2019 | Digital Signal Processing | University of Tehran |
| Fall 2018   | Signals and Systems       | University of Tehran |
| Spring 2017 | Signals and Systems       | University of Tehran |

## Research Interest & Plan

|          |                                                                                                                                                      |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oct.2021 | <b>Trusted Multi-Robot Collaboration in the Context of Autonomous Systems</b>                                                                        |
| Mar.2022 | Propose a trusted collaboration scheme for autonomous robots using blockchain.                                                                       |
| Mar.2022 | <b>Enhancing Security and Performance of Proposed Collaboration Scheme</b>                                                                           |
| Mar.2024 | Investigate and study all attack scenarios for multi-robot heterogeneous environments.<br>Achieve highest performance without compromising security. |
| Mar.2024 | <b>System validation and demonstration</b>                                                                                                           |
| Oct.2025 | Validated the system through a series of experiments of increasing complexity                                                                        |

## Language Skills

|         |                                |
|---------|--------------------------------|
| Farsi   | <b>Mother tongue</b>           |
| Turkmen | <b>Mother tongue</b>           |
| English | <b>95/120 - TOEFL iBT Test</b> |
| Turkish | <b>Fluent</b>                  |

## Awards and Prizes

|      |                                                                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2017 | <b>Master's Scholarship at University of Tehran</b><br>This award is given to top 10 percent of students, annually.                                    |
| 2016 | <b>Iran's National Elites Foundation Grant</b><br>A governmental organization responsible for recognizing, organizing and supporting national talents. |
| 2015 | <b>Iran's National Elites Foundation Grant</b><br>A governmental organization responsible for recognizing, organizing and supporting national talents. |
| 2013 | <b>Ranked 6th in Iranian University Entrance Exam</b><br>Among 50000 Mathematics & Physics High School Students                                        |

## Publications

|             |                                                                                                                                                                                                      |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (Preprints) | [*] F. Keramat, M.A. Akhaee. "A Hierarchical Sharding Protocol for Blockchains", <i>Unpublished manuscript, Electrical and Computer Engineering Department, University of Tehran, Tehran, Iran..</i> |
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