Sina Farahani

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Linkedin , Github

SUMMARY

- As an undergraduate student, fueled by a passion for research in the field of security, I pursued a graduate-level Security Protocols course, authoring and presenting a detailed literature review on Multi-Verifier Zero-Knowledge proofs.

- Excelled as the Head Teaching Assistant for the 'Signals and Systems' course, which secured my selection for a research project as a Research Assistant focusing on Implementing a Semi-Supervised Person Re-Identification model with Python.

- Driven by a love for cybersecurity, I completed practical training in hacking and security and strengthened my skills through advanced CTF challenges, gaining knowledge of various security threats and vulnerabilities.

INTERESTS

- Cybersecurity
- Network and Information Security
- Machine Learning in Security
- Security and Privacy

EDUCATION

B.Sc. in Computer Engineering   2021 – present

AmirKabir University of Technology   Tehran, Iran

- GPA: **3.37/4** (current), **3.87/4** (last two years)

Diploma of Mathematics and Physics Discipline   2018 – 2021

National Organization for Development of Exceptional Talents   Karaj, Iran

- GPA: **18.46/20**

RESEARCH EXPERIENCE

B.Sc. project under supervision of Dr. Babak Sadeghian   2025 – present

- Developing a Python implementation of the academic paper: 'Deep Hierarchical Reinforcement Agents for Automated Penetration Testing', aiming to construct a fully autonomous agent that leverages reinforcement learning to identify and exploit security vulnerabilities.

Research Assistant, Person Re-Identification Project   2025 – present

- Implementing a semi-supervised person re-identification model using **PyTorch** to improve upon the accuracy of state-of-the-art models. Dr. Rahmati offered me this research position following my performance as Head Teaching Assistant for his 'Signals and Systems' course.

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SELECTED COURSES

- Security Protocols (Graduate Level Course)
- Information Security (17.8/20)
- Internet of Things (19.25/20)
- Principles of Cloud Computing (17.75/20)
- Data Mining (18.41/20)
- Computational Intelligence (17/20)

COURSE PROJECTS

- Authored a literature review and delivered a presentation on Non-Interactive and Efficient Zero-Knowledge Proof with a Multiple Designated-Verifier Structure for the graduate-level Security Protocols course.
- Authored a report and delivered a presentation on Cloud Computing security., Research and Technical presentation course

TEACHING

- Head TA of **Computer Networks**, Dr. Babak Sadeghian — Spring 2024
- TA of **Electrical and Electronic Circuits**, Dr. Azim Farghadan — Spring 2024, Fall 2024
- TA of **Computer Architecture**, Dr. Azim Farghadan — Spring 2024
- TA of **Startup Development**, Dr. Amirhossein Roshanzamir — Spring 2024
- Head TA of **Signals and Systems**, Dr. Mohammad Rahmati — Fall 2024
- TA of **Principles of Database Design**, Dr. Zahra Pourbahman — Fall 2024

WORK EXPERIENCE

Python Developer at Daneshsazan ettelaat system   05/2024 – 08/2024

- Developed RestAPIs to efficiently monitor employees working hours using **FastAPI**.

Python Developer at Ettesal Yekparcheh   08/2023 – 10/2023

- Developed various applications, such as a language learning platform and a project management tool with **FastAPI**, focusing on efficient backend design and clean coding.

TECHNICAL SKILLS

Programming Languages

- **Python:** Developed a **'Kubernetes as a Service'** project using **FastAPI**; Online marketplace using **Django** and **Tailwind CSS**; machine learning projects using **Pytorch**, **TensorFlow**, **Matplotlib**, and **pandas**;
- **Java:** Collaborated with a partner to develop a Discord-like application using **JavaFX** with a focus on object-orientation for the Advanced Programming course.
- **JavaScript:** Developed a weather forecasting app; practiced identifying and mitigating common web application vulnerabilities such as Cross-Site Scripting (XSS).

- **SQL & NoSQL:** Developed a chatroom with **Redis**; Implemented several projects using **MongoDB** and **PostgreSQL**; practiced solving advanced SQL injection challenges.
- **Verilog, VHDL, & Arduino:** implemented projects for the microprocessor course and IoT course, working with **FPGA**, **Arduino uno**, and **ESP8266** boards.
- **C:** implemented the Mr. Jack board game as the final project for the Fundamentals of Computer Programming.

Operating Systems and Tools

- **Linux:** Applied command-line skills in advanced CTF challenges; adapted Linux as a personal OS.
- **Wireshark & Burpsuit:** Leveraged these tools for Computer Networks Lab and practiced with them for self-training purposes.
- **Docker & Kubernetes:** containerized many applications with Docker and practiced orchestration with Kubernetes for cloud computing projects.
- **LaTEX:** Utilized latex to write project reports and to design course homeworks.

LANGUAGES

- **English**: Proficient (TOEFL IBT: **112/120**)
  Reading: **30/30**   Listening: **30/30**
  Writing: **28/30**   Speaking: **24/30**
- **Persian**: Native

CERTIFICATES AND ONLINE COURSES

- Google Cybersecurity Professional Certificate (in progress)
- Practical Training in Hacking and Security (Quera College)   link
- Supervised Machine learning - DeepLearning.AI (Stanford, Coursera)   link

VOLUNTEER WORK

- Coordinated logistics and finance for the decoration of the country-wide Amirkabir Collegiate Programming Contest (ACPC).
- Assisted with the decoration and logistics for the EMIT event, the first blockchain event held by students in Iran.

ACTIVITIES AND INTERESTS

- **Chess**: Competed in tournaments as part of the university's chess team; Active in chess.com (my account)
- Listening to Music, Watching Movies/Series