

Education

2022–2025 M.Sc. in Software Engineering

Location: Azad University, Najafabad Branch, Isfahan, Iran

Thesis Topic: *An Optimized Federated Deep Learning Approach for Intrusion Detection in Dew Computing Environments*

Thesis Grade: 20/20

Supervisor: Dr. Barekatin

GPA: 16.93/20 (Top Student; direct Ph.D. admission)

2017–2022 B.Sc. in Computer Engineering

Location: University of Isfahan, Isfahan, Iran

Thesis Topic: *Design and Implementation of an ADS-B-Based Aircraft Observation System*

Thesis Grade: 20/20

Supervisor: Dr. Bohlooli

GPA: 14.67/20 - 15.5/20 (Last Two Years)

Notable Selected Courses

Master ○ Advanced Computer Networks (17.5/20), Cloud Computing (17/20)
○ Advanced Network Security (18.85/20), Data Mining (17/20), Software Architecture (17.5/20)

Bachelor ○ Algorithm Design (16/20), Computer Architecture (17/20), Operating Systems (18.04/20)
○ Computer Networks (16.25/20), Internet Engineering (17.24/20)
○ Principles of Compiler Design (20/20), Computer Design of Digital Systems (18.15/20)

Fields of Interest

Machine Learning & AI Security Deep Learning, Federated Learning, Adversarial ML, Explainable AI, Privacy-Preserving Learning, LLM Security, Trustworthy AI

Cybersecurity Intrusion Detection, Threat Intelligence, Adversarial Attacks, Ransomware, IoT & Cloud Security, Privacy & Data Protection

Computer Networks IoT, Dew/Cloud Computing, SDN, Network Virtualization, Digital Twins

Publications & Research

2023–2025 M.Sc. Thesis Research, Azad University, Najafabad Branch, Isfahan, Iran

Publication: A. Fadaei, B. Barekatin. *A Novel Intrusion Detection System for Dew Computing Environments Based on an Enhanced Federated Deep Learning Model*. Under review at *Neural Networks (Elsevier)*, 2025.

- Designed a lightweight CNN-based intrusion detection system (IDS) tailored for resource-constrained dew and edge nodes.
- Integrated federated learning to minimize bandwidth usage and improve model convergence, achieving ~58% reduction in training time.
- Reached 97% accuracy in multi-class classification across 14 attack categories.

Workshops & Seminars

2025 (Apr–May) **2nd National Dana Cup Programming Competition** — Azad University, Najafabad Branch, Isfahan, Iran. *Backend Programming Instructor and Referee*. Trained participants in backend development and evaluated team projects in a national-level programming contest.

2024 (Apr–May) **1st National Dana Cup Programming Competition** — Azad University, Najafabad Branch, Isfahan, Iran. *Backend Programming Instructor*. Delivered practical workshops on backend design and guided teams during the competition.

Work Experience

- 2024–Present **Programming Instructor**, *Iran TVTO*, Isfahan, Iran
Teaching programming fundamentals and software development practices to vocational students in official training programs.
- 2022–2024 **Software Developer**, *Fardaad (ISTT)*, Isfahan, Iran
Built vulnerability and patch management tools deployed in municipal/government networks; Optimized backend algorithms, reducing patch deployment time by 40%.
- 2021–2022 **Backend Developer**, *Meta Menu (Poytek)*, Isfahan, Iran
Contributed to the development of a cloud-based restaurant management system as part of an agile startup team.
- 2021–2022 **Backend Developer**, *PCG Lab, Isfahan University of Technology*, Isfahan, Iran
Built a biomedical information extraction system using academic research papers; integrated NLP techniques and database storage.

Teaching Experience

- 2020–2021 **Teaching Assistant**, *University of Isfahan*, Isfahan, Iran
- **Compiler Design** — Fall 2021 (Supervisor: Dr. Asadi)
 - **Fundamentals of Programming** — Fall 2020 (Supervisor: Dr. Asadi)
 - **Computer Workshop** — Winter 2020 (Supervisor: Dr. Bohlooli)
- 2021 **Python Instructor**, *Faculty of Agriculture, Isfahan University of Technology*, Isfahan, Iran
Delivered applied Python programming workshops to non-CS majors.

Honors & Awards

- Summer 2025 Top Student, M.Sc. Software Engineering, Azad Univ. (direct Ph.D. admission).
- Summer 2022 Best B.Sc. Thesis Award, Dept. of Computer Engineering, University of Isfahan.
- Spring 2022 National M.Sc. Entrance Exam: Ranked 185/150,000 (top 0.12%).

Skills

- Programming & ML Python, C++, Java, JavaScript, Node.js, TensorFlow, Scikit-learn, Pandas, NumPy
- Systems & Security Docker, Nginx, Linux, CloudSim, Vulnerability Management
- Databases & Web Django, Flask, Express.js, React.js, Django REST Framework (DRF), RESTful APIs, PostgreSQL, Redis, Celery
- Certification LPIC-1: Linux Professional Institute Certification

Test Scores

- IELTS (March 2025) Overall: 7.5 (Reading: 8.5, Listening: 7.5, Writing: 7.0, Speaking: 6.5)

References

- Dr. Behrang Barekatin**, *Associate Professor of Computer Engineering*, Azad University, Najafabad Branch, Faculty of Computer Engineering
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- Dr. Ali Bohlooli**, *Associate Professor of Computer Engineering*, University of Isfahan, Faculty of Computer Engineering
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- Dr. Shohre Ajoudanian**, *Assistant Professor of Computer Engineering*, Azad University, Najafabad Branch, Faculty of Computer Engineering
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