

Amir Mohammad Fakhimi

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Education

• [Sharif University of Technology](#)

Tehran, Iran

B.Sc. in Computer Engineering

September 2020 – February 2025

Supervisor: [Dr. Hamid Beigy](#)

- **GPA:** 18.72 / 20

- **Courses (Grades out of 20):**

- * Natural Language Processing (Graduate Course) - 19.8
- * Fundamentals of 3D Computer Vision - 18.7
- * Modern Information Retrieval - 20
- * Machine Learning - 19.6
- * Artificial Intelligence - 19.6
- * Linear Algebra - 20
- * Engineering Probability and Statistics - 20
- * Advanced Programming - 20
- * Fundamentals of Programming - 20

- **Teaching Assistants:**

- * Natural Language Processing (Graduate Course)
- * Generative Models (Graduate Course)
- * Modern Information Retrieval (3 Semesters)
- * Machine Learning (4 Semesters)
- * Artificial Intelligence (3 Semesters)
- * Linear Algebra
- * Engineering Probability and Statistics
- * Database Design (5 Semesters, 3 as Head TA)
- * Mobile Programming (Head of iOS Homework)
- * Web Programming
- * Software Testing
- * Advanced Programming (3 Semesters, 2 as Head of a Homework)
- * Fundamentals of Programming (3 Semesters, 1 as Head of a Homework)
- * Theory of Machines and Languages
- * Computer Simulation
- * Computer Networks
- * Computer Structure and Machine Language

Research Interests

- Natural Language Processing (LLMs)
- Computer Vision
- Deep Learning
- Machine Learning

Work Experiences

• [Artificial Intelligence Intern](#)

[Sokhan AI](#)

June 2024 – September 2024

- Focused on Automatic Speech Recognition (ASR) systems, specializing in fine-tuning [Whisper model](#) with public and proprietary Persian datasets.
- Achieved an approximately **10% reduction in Word Error Rate (WER)**, outperforming both the company's previous ASR system and fine-tuned open-source versions of Whisper.
- Contributed a bug-fix [pull request to Hugging Face's Transformers library](#), which was merged, resolving an issue encountered during Whisper model fine-tuning that was consistent with similar reported issues.
- After the internship, continued part-time to finalize ASR evaluation pipeline, benchmarks, and documentation, and hand off a reproducible training and evaluation setups.

• [Software Development Intern](#)

[Rahnema College](#)

August 2022 – November 2022

Internship

- Selected from nearly **900 participants** for this Tapsi-sponsored boot camp.

- Gained experience in **Front-End** (TypeScript, React.js), **Back-End** (Node.js), **Android Development** (Kotlin), and **DevOps** (Docker, CI/CD).
- Worked as part of the front-end team on the [FPL project](#) alongside five other team members.

Research Experiences

• Number Understanding in LLMs

Supervisor: [Dr. Ehsaneddin Asgari \(QCRI\)](#)

Qatar Computing Research Institute

April 2025 – Present

- Studying LLM numeric reasoning across different domains.
- Building benchmarks and analyzing error patterns.
- Exploring prompting, data augmentation, and light fine-tuning to boost performance.

• AI-Driven Referee Recommendation System for [Scientia Iranica Journal](#)

Supervisor: [Dr. Shohreh Kasaei \(IP Lab\)](#)

Sharif University of Technology

February 2024 – Present

- Contributing to an AI project for [Scientia Iranica](#), a journal of Sharif University of Technology.
- Developing an AI model to **automate referee selection** for submitted articles, streamlining the peer-review process.
- Designed an AI-based system to identify professors' expertise based on their published papers.

• Abductive Reasoning in LLMs

Supervisors: [Dr. Mohammad Hossein Rohban \(RIML Lab\)](#) and [Dr. Mahdi Jafari Siavoshani \(INL Lab\)](#)

Sharif University of Technology

May 2025 – August 2025

- Conducted structured literature review on abductive reasoning, from formal foundations to applications in LLMs.
- Compiled datasets and surveyed state-of-the-art papers.
- Ran preliminary evaluations of LLMs on abductive benchmarks.

• Research Survey on Compositional Problems of Stable Diffusion Models

Sharif University of Technology

Supervisors: [Dr. Mahdieh Soleymani Baghshah \(ML Lab\)](#) and [Dr. Mohammad Hossein Rohban \(RIML Lab\)](#)

October 2023 – April 2024

- Conducting a research survey on methods to address compositional challenges (e.g., object relationships and positional consistency) in stable diffusion models.

Highlighted Projects

• [LLMs' Citation Benchmark](#)

Sharif University of Technology

July 2024 – August 2024

- Final project for the Natural Language Processing course.
- Built a system to **evaluate citation accuracy** in LLMs.
- Experimented with multiple **prompt designs** to improve citation precision.
- **Developed new metrics** to assess citation reliability.

• [Llama 3 LoRA Fine-Tuning](#)

Sharif University of Technology

July 2024 - August 2024

- Completed as the final homework for the Natural Language Processing course.
- Created a [dataset](#) focused on gender-neutralization.
- Performed **LoRA** fine-tuning on **Llama 3** with the gender-neutral dataset.

Add Validation for Maximum Sequence Length in Whisper August 2024 – September 2024
• **Model of Hugging Face's Transformers Library**

Sokhan AI

- Introduced a validation check for the [Whisper model in Hugging Face's Transformers library](#) to ensure label sequence length does not exceed maximum token length.
- Enhanced model robustness and maintained consistent input dimensions.
- Implemented tests to verify the validation mechanism.

Modern Information Retrieval February 2022 – August 2023
Sharif University of Technology

- Comprehensive project for Modern Information Retrieval at Sharif University of Technology, completed in three phases.
- **Phase 1:** Implemented retrieval algorithms (Vector Spaces, Okapi BM25) and data compression, then evaluated them.
- **Phase 2:** Added classification methods (e.g., neural networks, language models) and enhanced the search engine with evaluations.
- **Phase 3:** Developed a web crawler for [semanticscholar.org](#), implemented personalized PageRank, author ranking, a recommender system, and designed a user interface for the search engine named **Amoogle**.

Honors and Awards

- **Third Place** in Sharif University of Technology Table Tennis Championship (2025)
- **Selected Athlete**, Sharif University of Technology Table Tennis Team, 16th National Students' Sports Olympiad (2024)
- **Direct Master's Program Candidate** in Artificial Intelligence, Sharif University of Technology – *Highly competitive program for top-performing students* (2023)

Volunteering Experiences

- **Events at Sharif University of Technology:**
 - **Scientific Staff** - [Rayan AI Global Contest](#) (2024): Focused on Anomaly Detection.
 - **Technical Staff** - [Gamein](#) (2024): Front-End Web Developer.
 - **Technical Staff** - She'r ta Code (2024): Front-End Web Developer.
 - **Technical Staff** - [ICPC](#) Asian Regional, Tehran Site (2024, 2023, 2022): Supported technical operations.
 - **Technical Staff** - [Winter Seminar Series \(WSS\)](#) (2023): Front-End Web Developer.
 - **Technical Staff** - [CodoCodile](#) (2023): Front-End Web Developer.
 - **Media Staff** - [League of Coders \(LoC\)](#) (2022): Managed media coverage.
 - **Executive Staff** - [HardWar](#) (2022): Supported event execution.
 - **Branding Staff** - [SharifGame](#) (2021): Assisted in branding initiatives.
 - **Presenter** - Linux & Computer Workshops, [Saboo](#) (2021): Led workshop presentations.
- **Introduction to Programming and Algorithms: A Collaborative High School Outreach Course**
 - Developed in collaboration with **Sharif University of Technology** and **Quera** to introduce high school students to programming and algorithms.
 - Engaged around **2000 students**, supported by a team of approximately **100 teaching staff**.
 - Contributed by writing textbooks, creating practical exercises, and mentoring a student group to enhance their learning.
 - Recognized as **one of the top mentors** for dedication and impactful contributions to student learning.

Other Courses

- [Advanced Concepts in AI: System 2 AI – Sharif University of Technology](#) *Audited Graduate Course, Sp 2025*
- [Deep Learning for Computer Vision – Stanford University](#) *Self-study*

Technical Skills

- **Programming Languages:** Python, JavaScript, TypeScript, Java, Swift, R, C, SQL, Verilog
- **Python Libraries for AI and Data Science:** PyTorch, TensorFlow, Hugging Face Libraries (Transformers, Datasets, PEFT, Evaluate), OpenCV, scikit-learn, NLTK, NumPy, Pandas, Matplotlib, Plotly
- **Web Technologies:**
 - **Front-End:** Next.js, React.js
 - **Back-End:** Node.js, FastAPI, PostgreSQL, Redis