Milad Bafarassat

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Website LinkedIn GitHub Google Scholar
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Education

Current Education

Sep 2021 – Sep 2025 **BSc in Computer Science and Engineering**,
- Graduated in September 2025
- **CGPA:** 3.73/4.0 – Ranked 63/729 (top 8%) in Faculty of Engineering
- Awarded the *Dilek Sabanci Scholarship* for exceptional academic performance.

Sep 2022 – Jan 2026 **BSc Double Major in Electronics Engineering, Minor in Physics**,
- Expected graduation: January 2026

Previous Education

Feb 2016 – Feb 2019 **Master of Business Administration (MBA)**, *Sharif University of Technology*
- Ranked 5th in Masters Entrance Exam out of 30,000 students (Top 0.02%).

Sep 2009 – Jul 2015 **BSc in Chemical Engineering**, *Sharif University of Technology*
- Ranked 1374th in the Undergraduate Entrance Exam out of 308,875 students (Top 0.4%).

Publications and Patents

[C1] C. Li, R. Yang, T. Li, **Milad Bafarassat**, K. Sharifi, Dirk Bergemann, Zhuoran Yang. (2024)
STRIDE: A Tool-Assisted LLM Agent Framework for Strategic and Interactive Decision-Making
AutoRL Workshop at **ICML 2024**

[C2] Milad Bafarassat, Melik Yazici, Korkut Kaan Tokgoz. (2025)
FET Modeling with Deep Neural Networks and GAN-Augmented Small Measurement Dataset
Oral Presentation at **SMACD 2025**

[P1] Milad Bafarassat, Korkut Kaan Tokgoz. (2025)
A Deep Neural Network-Based FET Simulation Method and System Implementing the Model
Application No.: 2025/008782 **Filing Date**: June 30, 2025 **Reference No.**: P7069-TR

Research Experience

Jan 2025 – Mar 2025 **Mechanistic Analysis of Language Models**, *Remote Researcher*, Shanghai AI Lab,
Researched mechanistic analysis and interpretability of transformer-based language models to enhance AI reliability and safety. Engaged with cutting-edge advancements in mechanistic interpretability, critically reviewed state-of-the-art research papers, and implemented a Meta-CoT-based approach to automate mechanistic interpretability in transformer architectures. Supervised by Wenyu Du (Final-year PhD student at HKU) and Dr. Jie Fu (Senior Research Scientist at Shanghai AI Lab).

Feb 2024 – Jun 2025 **FET Modeling using Deep Learning**, *Graduation Project* ,
Focused on developing robust FET models using data-driven techniques. This research explores data augmentation strategies, including interpolation methods, Generative Adversarial Networks (GANs), and Autoencoders, to enhance a limited dataset of 80,000 samples from 27 transistors. Following augmentation, deep learning models are trained and refined, with potential reinforcement learning experiments for optimization. The project aims to improve semiconductor device modeling and integrate these models into CAD tools such as SPICE or Verilog-A. Project concluded in paper accepted for Oral Presentation at **SMACD 2025**. Supervised by Professor Korkut Kaan Tokgoz.

Oct 2023 – May 2024 **LLM Agent Framework for Strategic Decision-Making**, *Remote Researcher* ,
Conducted research on enhancing decision-making by LLMs in multi-agent settings by integrating external tools. Paper was accepted to the ***AutoRL Workshop at ICML 2024*** and ***INFORMS Workshop on Market Design at EC 2024***. Supervised by Professor Zhuoran Yang and Dr. Chuanhao Li.

Jul 2023 – Oct 2023 **Determining Political Affiliations of Twitter Users using CV and ML**, *Researcher*,
Implemented advanced Self Supervised Learning clustering algorithms, including SwAV and BARLOW Twins, to categorize over 7 million profile pictures effectively. Then, clusters were used to determine the distribution of political affiliations and human/bot ratios. Supervised by Professor Onur Varol.

Internships

Jun 2025 – Jul 2025 **AI Engineering Intern**, *Intraverse*, Lugano, Switzerland (Remote)

- Designed and implemented a middleware pipeline connecting Unity game engine events to LLM APIs, enabling dynamic NPC dialogue, decision-making, and skill systems.
- Developed a plugin-based architecture for extensible character and quest design, with blockchain-backed validation for NPC responses.
- Produced documentation, a functional prototype, and performance benchmarks for real-time multiplayer scenarios.

Teaching Experience

Spring 2024 **Learning Assistant**, *Programming Fundamentals (CS201)*, Sabanci University

Extracurricular Activities

Jan 2025 – Jun 2025 **Mentor**, *Program for Undergraduate Research (PURE)*
Mentored junior students on a project focused on leveraging reinforcement learning techniques to enhance transistor data augmentation and optimize learning outcomes.

Apr 2023 – Oct 2023 **Student Advisor**, *Sabanci AI Club (kAi)*
Helped in the identification and negotiation processes with potential sponsors for the club.

Work Experience

Feb 2020 – Mar 2023 **AI Product Manager**, *HezarDastan Holding*, Istanbul, Turkey (Remote)

- Led a cross-functional team of 7 software engineers and ML researchers, and 2 operations and marketing team members.
- Co-founded and introduced 3 innovative AI-driven products, expanding the company's product portfolio.
- Spearheaded the development and implementation of **Recrupen**, an in-house Applicant Tracking System (ATS), streamlining hiring across 6 subsidiaries and processing 5000+ resumes annually to facilitate over 200 hires.
- Launched **QShoot**, an AI-based math problem-solving app, achieving 10K users within 2 months of launch.
- Launched **Gorgeous**, an AI-powered makeup recommendation app using user photos and event context; reached 1K users in 2 days.

Sep 2015 – Jan 2020 **Human Resources Manager**, *HezarDastan Holding*, Tehran, Iran

- Managed a team of 40 professionals across HR, Recruitment, Learning & Development, and Administration.
- Built and scaled a recruitment team from scratch to 7 full-time recruiters.
- Drove company growth by increasing headcount from 100 to 300 within two years, with a focus on technical roles.
- Promoted to HR Manager within 3 years due to consistent performance and leadership.
- Improved employee satisfaction significantly, raising the Net Promoter Score (NPS) from low 80%s to 92%.

Select Coursework

Probability and Statistics (A)
Linear Algebra (A)
Algorithms and Data Structures (A-)
Quantum Mechanics I (A-)
Quantum Mechanics II (B+)
Intro to Signal Processing (A)
Advanced Programming (A)
Computer Networks (B+)
Multimedia Communication (A)
Information and Coding Theory (B+)
Statistical Modeling (A)
Data Science (A)
Computer Vision (A-)
Digital Image & Video Analysis (A-)
Internet of Things Sensing System (?)
Scalable Learning Systems (?)

Skills

Software Skills C++, Python, PyTorch, TensorFlow
Languages English (C1), Turkish (C1), Azeri (Native), and Persian (Native)