

Amirmohammad Erfan

 +90 552 798 87 40 •  amirmohammaderfan@gmail.com

Education

Bilkent University <i>M.S in Computer Engineering</i>	Ankara, Turkey <i>Jan 2026 - Expected December 2027</i>
Middle East Technical University <i>B.s.c. in Computer Engineering</i> CGPA: (3.10/4.00)	Ankara, Turkey <i>Oct 2021 - Jan 2026</i>

Research Interests

Artificial Intelligence	Machine Learning	Data Science
Quantum Computing	Quantum Algorithms	Blockchain
Bioinformatics	Computational Biology	BioGenAI
Cybersecurity	Privacy	Internet of Things
Human-Computer Interaction	Usability Engineering	Edge Computing

Skills

- Technical Skills

- **Programming Languages:** **Python** (NLP, Transformers, LangChain, RoBERTa, Large Language Models, Qiskit, PennyLane): Used in my research projects and senior year graduation project.
C++: Extensively used in multiple university courses.
JavaScript/TypeScript (HTML, CSS): Acquired through part-time jobs at DarkSN GmbH and BayPM Tech.
C#, Q#: Used in Unitybased game design and beginner-level quantum algorithm implementations.
MATLAB: Brief experience in numerical computing and data visualization during coursework.
LaTeX: Used extensively for writing academic papers, research documentation, and technical reports.
- **Web & Front-end Development:** React, Angular, Next.js, Vite, Node.js, Material UI (MUI), HTML/CSS, Figma (UI/UX): Gained practical experience in these technologies during part-time roles and my internship at BayPM Tech.
- **Machine Learning & AI:** TensorFlow, PyTorch, RoBERTa, Hugging Face, LangChain, Transformers, Whisper, BERT, LSTM, GANs, NLP: Used in NLP research, AI-driven applications, and academic projects.
- **Quantum Computing:** Qiskit, PennyLane, Q#: Gained introductorylevel experience through

- online courses and personal projects exploring quantum circuits, variational algorithms, and quantum machine learning.
- **Game Development:** Unity, C#: Used in personal game design projects and coursework to create interactive 2D/3D games and prototypes.
 - **Databases & Cloud Services:**
 - SQL (MySQL):** Learned and applied in the Data Management and File Structures university course.
 - NoSQL (MongoDB, Firebase):** Used in my graduation project and personal projects for efficient data storage and retrieval.
 - AWS, Microsoft Azure:** Gained experience in cloud computing coursework and applied in real-world projects using cloud-based deployments.
 - **Embedded Systems & Hardware:** Embedded Programming (PIC microcontrollers, MPLAB IDE, PicKit3 debugger): Worked on microcontroller-based projects in my Embedded Systems Development course, ranging from simple LED blinking to developing small-scale games (e.g., Tetris).
 - **Software Engineering & Development:** **Version Control** (Git, GitHub, GitLab): Hands-on experience in collaborative software development projects at DarkSN GmbH and BayPM Tech, working in large teams with 20+ developers.
 - **Agile Methodologies** (Scrum, Sprint Planning, Task Management): Theoretical foundation from university coursework, practical experience from part-time jobs and my graduation project, involving task assignment, sprint planning, and feature prioritization.

- Soft Skills

- **Team Collaboration & Leadership:** Hands-on experience working in highly collaborative teams in part-time jobs and university projects, effectively managing tasks, coordinating with team members, and leading initiatives in structured development environments.
- **Problem-Solving & Analytical Thinking:** Quick at analyzing and breaking down complex problems, efficiently researching solutions, and adapting to new technologies or challenges.
- **Adaptability & Communication:** Strong ability to integrate into new teams, maintain professional relationships, and ensure clear and structured communication in both technical and non-technical settings.
- **Public Speaking & Presentation:** Experienced in delivering technical presentations and explaining complex topics in an accessible manner.
- **Marketing & Persuasion:** Ability to create product value propositions and effectively communicate ideas in a way that engages stakeholders or clients.
- **Efficient Research & Learning:** Capable of quickly acquiring new knowledge, searching and analyzing information efficiently, and applying self-learning strategies to new topics or challenges.

Research Experience

- Conference Papers (Accepted)

- **Amirmohammad Erfan, Dr. Prof. Leila Mortazavifar**, Assoc. Mohammad Iman Jamnezhad, "Using artificial intelligence techniques in the software development process" (*In Farsi Language*), **4th International Conference on New Strategies in Engineering, Information Science and**

Technology in the Next Century, (2020).

- **Amirmohammad Erfan**, Mohammad Taha Zafer, **Assoc. Prof. Pelin Angın Ülküer**, "From Voice to Code: A RAG-Enhanced Pipeline for Robust, Multi-Accent Order-to-JSON Processing", **Guided Research Course**, (2025). [Presented at NLPCL 2025 Conference, Preparing to publish]

– Finished Papers - Awaiting Submission

- **Amirmohammad Erfan, Prof. Dr. Ranesh Naha**, "Quantum Computing in Fog Paradigm: A Comprehensive Survey of Emerging Applications and Techniques", (2025). [To be submitted to ACM Computing Survey]

– Manuscript in Preparation

- **Amirmohammad Erfan, Prof. Dr. Ranesh Naha**, "A Targeted Analysis of Standardized Post-Quantum Cryptography for Fog Computing Architectures", (2025). [Submitted to IEEE CCGrid 2026]

– In Progress Research

- **Assoc. Prof. Pelin Angın Ülküer, Amirmohammad Erfan**, Burak Çınar, "High Performance Intrusion Detection and Prevention for Software-Defined Container Networks in the Cloud architecture", (Nov 2024 — On-going).

Conferences

- Voluntary participant in **METU DTX Seminar**, May 16th, 2025, Ankara, Türkiye
- Invited participant in **Innovate Dubai at AMU**, Feb 5th, 2025, Dubai, United Arab Emirates
- Voluntary participant in **AI Everything Summit**, Feb 4th, 2025, Abu Dhabi, United Arab Emirates

Honors & Awards

- **Most Effective Research Award**
 - Middle East Technical University Research Symposium (2025) — Link - Certificate
- **Partial Tuition waiver Scholarship**
 - Middle East Technical University
- **SAT Exam 99th percentile (May 2021)**
 - Math: 800, English: 780, Total: 1580/1600
- **GRE Exam (September 2025)**
 - Quantitative: 165, Verbal: 156, Analytical Writing: 3.5

Work Experience

Software Developer, DPS Türkiye
Ankara, Türkiye (Hybrid)

Sep 2025 - Dec 2025

- Developing a user-generated content (UGC) platform for AI-driven content, similar to YouTube, for the client Onedio.

- Collaborating closely with the Onedio team in a fast-paced, hybrid (remote/office) work environment to meet project milestones.
- Implementing and integrating robust authentication (auth) and security tools to protect user data and platform integrity.
- Utilizing various AI tools and frameworks to support content moderation and feature development.

Computer Vision Intern, JdeRobotics

Jun 2025 - Sep 2025

Madrid, Spain (Remote)

- Developing interactive Computer Vision and AI exercises for an open-source robotics academy, contributing to the educational initiatives of Rey Juan Carlos University under the supervision of Professor Jose María Cañas Plaza.
- Implementing core functionalities and user interfaces for these exercises using Python for AI/CV algorithms and React for web-based delivery, ensuring a practical and accessible learning experience.
- Leveraging Docker for containerized development and deployment, streamlining contributions to a collaborative, open-source environment.

Map Data Analyst, Peroptyx

Jul 2023 - Aug 2024

Turkey (Remote)

- Analyzed and validated geospatial data to improve map accuracy.
- Evaluated and corrected map inconsistencies using advanced analytical tools.
- Provided feedback on data quality to enhance AI-driven mapping algorithms.

Software Developer, BAYPM

Oct 2024 - Apr 2025

London, United Kingdom (Remote)

- Developed and maintained web applications using React, Next.js, and TypeScript.
- Collaborated in an Agile team to implement low-code solutions for enterprise applications.
- Designed and optimized UI components for improved user experience.

Software Engineer Intern, BAYPM

Jul 2024 - Sep 2024

London, United Kingdom (Remote)

- Assisted in the development of low-code applications using Mendix.
- Built and deployed custom widgets and utilities for enterprise applications.
- Worked with RESTful APIs to integrate third-party services.

Deep Learning Research Intern

Aug 2024 – Nov 2024

Ankara, Türkiye (Remote), Middle East Technical University

- Conducted research on Natural Language Processing (NLP) techniques for voice-based food ordering systems.
- Designed and implemented deep learning models to interpret and classify user voice commands in a food ordering context.
- Developed a prototype system integrating NLP models with a full-stack web and mobile application for real-time restaurant order management.
- Optimized API communication and app performance to support AI-driven user interactions.

Frontend Developer, DARKSN GmbH

Feb 2023 - Dec 2023

Turkey (Remote)

- Designed and developed UI components using React and Next.js.

- Collaborated with backend developers to enhance API integration.
- Improved the performance and accessibility of web applications.

Languages

- METU English Proficiency Exam: 95/100 (September 2021)
- TOEFL iBT (July 2025): 112/120 (Reading: 29/30, Listening 30/30, Speaking 26/30, Writing 27/30)

Certifications

- Conferences

- **4th International Conference on New Solutions in Engineering**, Jul 2020
Credential ID: ICIET00222-AB
Paper Link: Civilica

- Standford Medicine (54.50 Credits)

- **Introduction to Healthcare**, Jun 2025
Credential ID: 47051
- **Introduction to Clinical Data**, Jun 2025
Credential ID: 47057
- **Fundamentals of AI and Machine Learning in Healthcare**, Jun 2025
Credential ID: 47055
- **Evaluations of AI Applications in Healthcare**, July 2025
Credential ID: 47063
- **AI in Healthcare Capstone**, July 2025
Credential ID: 39163

- Udemy

- **QC101 Quantum Computing & Intro to Quantum Machine Learning**, Jul 2025
Credential ID: UC-f0f28d77-be30-43b6-9035-35fb730b4602
- **Complete C# Unity Game Developer 3D**, Jun 2025
Credential ID: UC-4b7a4bb2-ca04-4803-a5f0-8e83b325fbce
- **Deep Learning: Advanced Computer Vision (GANs, SSD, +More!)**, Apr 2025
Credential ID: UC-163cc260-e941-4024-aa61-6c0ced175130
- **Docker & Kubernetes: The Practical Guide**, Mar 2025
Credential ID: UC-2e86bb50-39be-4c0b-b996-84580c117c24
- **Fine Tuning LLM with Hugging Face Transformers for NLP**, Mar 2025
Credential ID: UC-0cecef66-49e0-4d83-a2e6-805cb940fdbc
- **Hacking and Securing Docker Containers v2.0**, Mar 2025
Credential ID: UC-cbb62985-7391-418b-bc24-1d80facc6666
- **The AI Engineer Course 2025: Complete AI Engineer Bootcamp**, Mar 2025
Credential ID: UC-b2c3eb90-a376-429f-aa1e-3a293cc7774a

- **Coursera**
 - **Algorithms on Strings**, Feb 2023
Credential ID: HDPDG7RB9HCZ
 - **Advanced Algorithms and Complexity**, Feb 2023
Credential ID: 83XDZHUQSHEN
 - **Algorithms on Graphs**, Feb 2023
Credential ID: FZD5PTQL6UFJ
 - **Data Structures**, Feb 2023
Credential ID: XTRDUSA9F924
 - **Data Structures and Algorithms Specialization**, Feb 2023
Credential ID: SZ2Q6XTSXLPP
 - **Genome Assembly Programming Challenge**, Feb 2023
Credential ID: L3B6P6U7E7L2
 - **Algorithmic Toolbox**, Jan 2023
Credential ID: BUTUMZCHCDGG
 - **Machine Learning Specialization**, Sep 2022
Credential ID: S2YW579H38EJ
 - **Advanced Learning Algorithms**, Sep 2022
Credential ID: V3GYJDEU4BQF
 - **Unsupervised Learning, Recommenders, Reinforcement Learning**, Sep 2022
Credential ID: CWHGSMUARXU2
 - **Supervised Machine Learning: Regression and Classification**, Aug 2022
Credential ID: NT52CYZ6USUV
- **HuggingFace**
 - **AI Agents Fundamentals by HuggingFace**, Mar 2025
Credential ID: 2025-03-20