

EDUCATION

School of Computer and Communication Sciences (IC), EPFL <i>Ph.D. in Computer Science</i>	Lausanne, Switzerland Sept 2025 - Current
Department of Computer Science, Bilkent University <i>B.Sc. in Computer Science</i>	Ankara, Turkey Sept 2021 – June 2025

ACADEMIC EXPERIENCE

CICEKLAB Ankara, Turkey Website Link	Feb. 2024 – June 2025
<ul style="list-style-type: none"> Conducted bioinformatics research under the supervision of Prof. Ercüment Çiçek, with a focus on AI-driven sequence generation for drug discovery. Pretrained and fine-tuned transformer-based models including GPT-2 and T5 to enable RNA sequence generation conditioned on target protein structures. Adapted and integrated published models such as GenerRNA and ProtBERT to support protein-informed RNA generation pipelines. Optimized pretrained models using reinforcement learning with the GRPO to enhance binding affinity, GC content, and minimum free energy. Validated seq. quality using DeepBind to predict and score binding affinities. 	

PROJECTS

Ottawa-Bilkent Massive IoT Project Ankara, Turkey	Feb. 2023 – Jan. 2025
<ul style="list-style-type: none"> Collaborated with Prof. Orhan Arıkan and Huawei Ottawa on IoT comm systems. Designed and implemented a multi-agent reinforcement learning framework to optimize wireless bandwidth allocation in city-vehicle IoT networks. Curated datasets pipeline and developed a semantic communication system. Authored a report titled "<i>Effective Communications in the Goal-Oriented Semantic Signal Processing Framework</i>" (internal publication). Presented findings to Huawei Wireless CTO Dr. Wen Tong and his team during the Ottawa–Bilkent Workshop. 	

Variant-Net Search Engine Search Engine for Genomics	Fall 2024 – June 2025
<ul style="list-style-type: none"> Developed a knowledge graph-based search engine to analyze genomic variants. Implemented an Agentic RAG system using Milvus, Supabase, and Neo4j as the vector, relational, and graph databases. Integrated DGI RAG to Vector RAG and Graph RAG pipelines to retrieve similar nodes and provided 70+ tool integrations. Designed and deployed Deep Research modules to generate domain-specific reports and automate scientific document exploration. Received the Best Data Science Project Award in Bilkent University's CS492 Graduation Projects, worth 90,000 TL (~\$2,570). Secured \$2,000 funding from T3 Foundation's AI Researcher Scholarship Program. 	

Rubber Duck AI AI-based Learning Companion	Jun. 2024 – Sep. 2024
<ul style="list-style-type: none"> Developed an AI-based learning companion utilizing the Feynman Technique to simplify complex concepts via knowledge graphs and a multi-agent framework. Generated knowledge graphs from academic sources and traversed query-relevant subgraphs through coordinated agent-human interaction. Integrated LangChain and LangGraph for orchestrating LLM agents, leveraging Vespa as a vector database and Neo4j for graph storage. Ranked 1st in Amazon University Engagement Program, earning \$4000. 	

Bilkent Online Platform for Material Exchange	Nov. 2023 – May 2024
<ul style="list-style-type: none"> Co-founded and led Bilkent Online, a platform facilitating seamless material exchange and fostering student discussions across the university. Built the platform using React, Node.js, MongoDB, and Express. Secured funding from the Microsoft Founders Hub (\$5000 fund) and recognized as the Best Software Engineering Project in Bilkent's CS319 course. 	

Multi-Agent Drone Simulation LLM-Based Tactical System	May 2025 – July 2025
<ul style="list-style-type: none"> Developed a multi-agent drone simulation, enabling drones to autonomously perform tactical missions using LLM-based decision making. Designed a hierarchical control system with a centralized GPT-4 strategist and decentralized agents for adaptive pathfinding and threat avoidance. 	

WORK EXPERIENCE

AI Engineer, ROKETSAN | Ankara, Turkey Jan. 2025 - July 2025

- Engineered a **multi-agent LLM system** to simulate and enhance situational awareness within a tactical war game environment.
- Constructed agentic **RAG pipelines** for automated knowledge extraction and analysis from complex documents.
- Developed a multi-agent LLM to automate the generation of in-depth research reports.

NLP Intern, Digital Transformation Office | Ankara, Turkey July 2024 - Aug. 2024

- Fine-tuned transformer models for rating and review analysis on a dataset of 200k e-commerce reviews, which I personally scraped and curated. |  Dataset
- Designed an LLM-based pipeline with **Llama3** and **DeepSeekCoder v2** to automatically detect potential internal data leaks in documents.

Candidate Engineer, ASELSAN | Ankara, Turkey Feb. 2024 - June 2024

- Developed console applications to control, test, and interface with advanced camera systems for computer vision technologies.

AI Research Intern, Huawei | Ankara, Turkey June 2023 - Aug. 2023

- Designed a **traffic simulation environment** in CARLA using semantic cameras to capture multi-object scenarios.
- Trained a **Deep Q-Network** agent for autonomous vehicle control, achieving optimal navigation in complex, simulated traffic. |  Source Code

TEACHING EXPERIENCE

CS101 - Algorithms and Programming I | Bilkent University Fall 2022

- Conducted 10 lab sessions on Java, algorithms, and fundamentals of programming

CS223 - Digital Design | Bilkent University Spring 2023

- Led 6 lab sessions on digital design, System Verilog, BASYS3, and FPGA.

SCHOLARSHIPS

- Salih Karagöz AI Support Scholarship (2025)**
Awarded to support students contributing to scientific research in Turkey.
- AWS AI-ML Scholarship Program (2024)**
Awarded by Amazon and Udacity for achieving **1st place** in Amazon's competition.
- Bilkent Comprehensive Scholarship (2021-2025)**
Full scholarship provided by Bilkent University in recognition of academic excellence.
- Cahit Arf Government Scholarship (2021–2025)**
Awarded by Turkish Government for a **top 100 ranking** in the university entrance exam.
- TUBITAK 2247-C Scholarship (July 2022–January 2023)**
Granted by TUBITAK for participation in the **Intern Research Scholarship Program**,

TEST SCORE

- Rank: 28/139,565**, Academic Personnel and Postgraduate Education Entrance Exam 2024
- Rank: 98/2,573,156**, Higher Education Institutions Exam for Social Score 2022
- Rank: 89/2,592,390**, Higher Education Institutions Exam for Math-Science Score 2021

COMMUNITY INVOLVEMENT

Bilkent AI General Secretary (+500 Members) | Website Link 2023 – 2025

- Spearheaded partnerships with industry leaders such as **NVIDIA** and **Notion**.
- Partnered with **Global Turks AI** and hosted experts from **OpenAI**, **Google**, **Meta**.

180DC Bilkent Consultant | Ankara, Turkey 2022 – 2023

- Partnered with **Bain Company** to develop effective marketing strategies for **AÇEV**.

Bilinç ve Hikmet Philosophy Society Lead (2 Issues) | Samsun, Turkey 2020 – 2022

- Coordinated online discussions on modern philosophy and published two issues

ATAMUN Head of MUN Society | Samsun, Turkey 2018 – 2020

- Served as DSG for **ATAMUN'19**, and USG during **ATAMUN'18**

REFERENCES

Prof. Orhan Arıkan, Dean of Engineering at Bilkent University
Email: oarikan@bilkent.edu.tr, Tel: (+90 312) 290 12 08

Assoc. Prof. A. Ercüment Çiçek, Department of Computer Science at Bilkent University
Email: ercument.cicek@bilkent.edu.tr, Tel: (+90 312) 290 69 41

Dr. Mert Kalfa, Engineering Manager at Meteksan Savunma
Email: kalfa@ee.bilkent.edu.tr, Tel: (+90 505) 559 83 17