

Emir Kaan ERTUĞRUL

Fourth-year Computer Engineering Student

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About

I am a fourth-year Computer Engineering student with experience in artificial intelligence, parallel computing, system optimization, cybersecurity, and web development. I am a co-author of a student research paper on an adaptive video scheduler for CPU-based real-time object detection, currently under review. I am particularly interested in parallel computing and performance optimization, and I continuously strive to develop my technical skills.

Education

2022 - Now

Çankaya University, Ankara *Computer Engineering*

Fourth-year Computer Engineering student with experience in the Computer Engineering Community for one year and completion of the elective course ALM101 (German).

Projects & Research

Adaptive Video Scheduler for CPU-Based Real-Time Object Detection *Student Research Paper — currently under review*

Co-authored a paper on a CPU-only YOLOv8n-based adaptive video scheduler, combining PID control, adaptive thread scaling, priority-based frame dropping, and a reinforcement-learning-based frame-skip mechanism. Contributed to ablation experiments and benchmarking.

Two-Node MPI Cluster over VPN *Parallel Computing / HPC*

Set up a WireGuard VPN server on Google Cloud Platform and configured a two-node MPI cluster over the VPN using WSL2, as a hands-on project for building high-performance computing skills.

Catering Platform *ASP.NET Core MVC*

Co-developed a web platform for managing catering orders using ASP.NET Core MVC, built as part of the Web Projects course.

Skills

C# Programming Language

- [E-Invoice Windows Form Application](#) – desktop invoicing tool
- [MVC .NET Framework Web Application](#)
- .NET Core Web Application
- [2D Pixel Art Game \(Unity\)](#) – built for a game jam

C++ Programming Language

- Çankaya University CENG 241 – Object Oriented Language
- Çankaya University CENG 218 – Data Structures
- [Web Scraper using libcurl](#)

Python Programming Language

- [Socket Programming](#) – basic port scanner
- [Skip-Gram Algorithm](#)
- [Photo Location Viewer](#) (Tkinter, Folium, Pillow, Selenium)
- [Image Classification with CNN](#) (Tkinter, NumPy, Pillow, PyTorch, TorchVision)

Android Java Programming Language

- [Text-based AI Chat Application](#) using Gemini API
- [Android Studio Flag Quiz App](#)
- [Android Studio Dictionary App](#)

Assembly

- [Simon-style Memory Game](#)

Parallel Computing

- OpenMP, MPI, lock-free queues (Michael-Scott algorithm), Amdahl's Law

Experience

10/08/2026 – 04/09/2026

Savronik Savunma Sanayii, Ankara — *Computer Engineering Intern*

As a Software Development Intern within Savronik's Product Development and Management unit, I developed zoom-to-point animations for a JavaFX-based desktop application, resolved PostgreSQL data persistence issues, and contributed to improving application stability.

01/09/2025 – 26/09/2025

ARD Grup Bilişim Teknolojileri, Ankara — *Computer Engineering Intern*

During my one-month internship, I developed three applications using C#: a .NET MVC web project, a Windows Forms application, and a Web API application.

2023 – Now

Private Tutor, Ankara

I provide private math lessons for primary, middle, and high school students, as well as for LGS and YKS students, in exchange for payment.

Certificates

- [Reverse Engineering and Malware Analysis Fundamentals](#)
- Gates Jam 2025
- [Pre Security](#)
- Introduction to Cyber Security
- [Java ile Programlamaya Giriş](#)
- [Uygulama Geliştirerek C# Öğrenin: A'dan Z'ye Eğitim Seti](#)

Languages

- **Turkish** Native
- **English** B2
- **German** A1

Hobbies

Photography I enjoy going out with my camera to photograph animals, landscapes, and capture hidden, overlooked moments.