

Emre Kerman

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Computer Engineering student from Izmir, currently studying at Dokuz Eylül University, who loves Linux and Open-Source software. Experienced in software development, machine learning, and embedded systems, with hands-on experience in IoT, computer vision, and backend development. Always eager to learn new technologies and contributing.

Projects

Early Frost Detection using Machine Learning & Sensor Data *Final Project* **Year IV**

Machine Learning, IOT This project is trying to solve one of the problems of Arçelik, and at the time of writing we are still working on it while waiting application results to Tübitak 4007 for this project. Ice formation on cooling fins disrupt the normal operation of refrigerators and cause drops in efficiency. To detect it earlier before it happens means better cooling, increased efficiency and less tear from continuous ice formation and defrosting cycle. We plan to create an AI model trained on sensory environmental data, such as; temperature, humidity and alike. Making it possible to prevent it before it occurs.

Responsibilities

- Web server and front-end for data monitoring written in Go
- Creating a refrigerator prototype from scratch to create a more accurate model
- Data collection with ESP-32 and sensor modules like DHT-22 over WiFi
- Data preprocessing, feature engineering and model training

Tech Stack Go, Python, C, Tensorflow, Keras, Numpy, ESP-32

Hand Gesture Detection with Computer Vision *Computer Graphics* **Year IV**

Machine Learning, Computer Vision Creating two different models to detect and classificate different hand gestures using computer vision with a webcam.

Responsibilities

- Prepared the dataset from scratch.
- Built one CNN model that is simpler and less resource-heavy
- Built another ML model that utilizes an architecure similar to Residual Networks.
- Created a more safe & efficient training pipeline for training with Model Checkpoints
- Built the webcam support and other UX improvements

Tech Stack Python, Tensorflow, Keras, Numpy

Game Platform & Store-front *Database Management Systems* **Year III**

Database A simple store-front, similar to Steam, that allows users to buy, sell and publish games.

Responsibilities

- Database architecure & design
- Database automation and management
- Back-end development and application logic

Tech Stack C#, .NET Core, PostgreSQL

Computer From Scratch *Computer Architecture*

Year II

Computer Architecture We created a computer that can execute custom assembly code from scratch starting with basic logic gates and building the ALU, controller, bus, memory and other registers.

Tech Stack Intel Quartus Prime

Simple Music Player *Object Oriented Programming*

Year II

Tech Stack Java, JavaFX

Fire & Ice: Simple TUI Game *Project Based Learning*

Year I

Tech Stack Java

Education

- **High School** *Yunus Emre Anadolu Lisesi*

2018-2021

- **Computer Engineering** *Dokuz Eylül University*

2021-2025

Skills & Hobbies

Linux

Docker

Graphic Design

- Adobe Photoshop
- Adobe Illustrator

Video Editing

- Adobe Premiere Pro

Music Production

- Guitar
- DAWs like FL Studio

Languages

- Turkish: Native language
- English: Advanced (C1)
- German: Beginner Level