

# Emre Kerman

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github.com/dehidr

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

## References

- Ali Koç: Siemens, Software Test Engineer, 0531 593 23 30
- Altuğ Öztunalı: İndas Group, Automation Manager, 0541 459 99 06
- İbrahim Kerman: Delta Proses, Automation Project Designer, 0536 217 53 85