Alperen Bitirgen

SOFTWARE ENGINEER

Turin, Italy

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Experience

KOVAN Research Lab
Ankara, Turkey

Research Intern
July - September 2022

- Responsible for creating the machine learning pipeline for recognizing chess game state and field by corner detection, Hough transform, object segmentation.
- Integrated the pipeline with robotic arm camera and achieved 0.90 accuracy on detecting chess pieces.
- Worked on algorithms that would enable the recognition of the chessboard and the pieces from the camera on the robot arm and integrated the YOLOv7 model, which performs 0.78 precision and 0.85 recall.
- Tech Stack: Matplotlib, Scikit-learn, PyTorch

ULKEM Inc.
Ankara, Turkey

Software Developer Intern
February - March 2021

- Responsible for developing a login interface for users, authorization and authentication
- Created web-socket connections that allows two way communication between the embedding of the 12-16 Mbps video stream from the IP camera to the website in real-time and adjusting IP camera settings from web-browser
- Tech Stack: JavaScript

Projects

Cutify
Final Year Project

A Social Media App for Pets, Pet Owners, and Shelters

- Designed and implemented the mobile app front-end for 7 pages using Flutter and 5 back-end endpoints for in-app actions using Django
- Applied transfer learning of MobilNetV2 for breed prediction of pets with 50+ classes and achieved top-1 accuracy of 0.89 and top-3 accuracy of 0.96
- Tech Stack: Flutter, Django, TensorflowJS

Education

Politecnico di Torino
Turin, Italy

Master's of Science in Artificial Intelligence and Data Analytics
October 2023 - July 2025

Middle East Technical University
Ankara, Turkey

Bachelor's of Science in Computer Science
September 2019 - September 2023

Professional Development

- **The Web Developer Bootcamp**, *udemy.com*, October 2022
- **Introduction to Machine Learning in Production**, *coursera.org*, March 2022
- **Deep Learning Specialization**, *coursera.org*, February 2022

Skills

Programming Languages	Python, C/C++, JavaScript, TypeScript, SQL
Frameworks & Libraries	FastAPI, React, Express, Next, Pandas, Numpy, Pandas, Matplotlib, Scikit-learn, PyTorch
Database & Data Processing	SQLite, MongoDB, PostgreSQL
Deployment & Developer Tools	Git, Docker

Additional

Languages:	Turkish (Native), English(IELTS Overall:7.5)
Communities:	Scuba Diving Student Club