OLCA ORAKCI

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LinkedIn & GitHub & Portfolio

EDUCATION

Middle East Technical University, Graduate School Mar 2021 - Present
Master of Science in Multimedia Informatics

- Machine Learning For Multimedia Informatics
- Machine Learning Systems Design And Deployment
- Deep Learning: Methods And Applications
- Reinforcement Learning
- Sequence Models In Multimedia
- Physics For Computer Games
- Game Development Pipeline
- Research Methods

Middle East Technical University Sep 2014 - Jan 2021
Bachelor of Physics
Data Science Project: Milky Way Star Mapping with Big Data

- Artificial Intelligence
- Astrophysical Data Analysis
- Basics Of Scientific Computation
- Computational Physics I

TECHNICAL PROFICIENCIES

- Machine & Deep Learning
- Exploratory Data Analysis
- Data Visualization
- Natural Language Processing
- Large Language Models
- Computer Vision
- Reinforcement Learning
- SQL & NoSQL Databases
- Anomaly Detection
- Time Series Analysis
- Time Series Forecasting
- Recommender Systems

PROFESSIONAL EXPERIENCE

Innova IT Solutions Dec 2021 - Present
Senior Software Development Specialist - AI Team
Skills: Python, Spark, SQL, Flask Rest API, LLMs, Tensorflow, Pytorch, Scikit-Learn, PyGAD, Wandb, Pycaret, Kafka, Rasa, OpenCV, YOLO, OOP, Pandas, Numpy, Plotly, GIT, Agile, Docker, Jira

- As the AI lead for the Nova Project, spearheaded the development of a cutting-edge faulty cable detection system utilizing deep learning technologies. The AI algorithm I crafted played a pivotal role in the project's recognition as a finalist for the TM Forum's Excellence in Network Agility Award for 2023. Furthermore, the project garnered significant acclaim by winning the prestigious IDC Turkey Summit Best Future of Intelligence Award.
- Developed a predictive maintenance model resulting in annual cost savings of approximately 3M €, optimizing productivity for battery replacement personnel in the field and ensuring efficient allocation of battery investments.
- Managed a team of five individuals in the development of a router malfunction detection application utilizing computer vision techniques. Orchestrated the project from start to finish, including planning the methodology, creating timelines, and overseeing the development process.
- Rapidly created a satellite imagery-based hardware location monitoring system in response to the 2023 Turkey-Syria earthquake crisis. Implemented the program within a day to support operator crews working in affected cities.

Mobirob May 2021 - Dec 2021
Computer Vision Engineer
Skills: Python, OpenCV, Tensorflow, OOP, Tesseract OCR, YOLO, Open3D, Numpy, Seaborn, Matplotlib, Multithreading, GIT, Agile, Jira

- Accelerated the inference speed of a smart power screwdriver by 350% through the implementation of cutting-edge object detection methods. Transformed the product from an experimental state to a production-ready state by significantly improving the inference speed that was previously deemed too slow.
- Designed and implemented the back-end software for a cost-effective laser vision sensor and high-precision industrial measurement application. Utilized machine learning algorithms to achieve a resolution of approximately 0.01mm within a range of 70-110cm, surpassing the performance of the commercial Gocator 2330.
- Developed an OCR application using 3D sensor data to improve quality control in manufacturing process for a confidential material, reducing human error risks.

Astronomical Optical Laboratory, METU Aug 2019 - Feb 2021
Data Science Volunteer, Part Time
Skills: Python, SQL, Tensorflow, Scikit-Learn, XGboost, Pandas, Numpy, Seaborn, Matplotlib

- Developed an algorithm utilizing Deep Deterministic Policy Gradient to optimize ground telescope imaging performance, presented at EuroCC Winter School 2021
- Delivered applied machine learning workshop at Deep Learning and Artificial Intelligence in Astronomy Workshop, Ege University, Turkey (2020)
- Classified objects in Sloan Digital Sky Survey data utilizing XGBoost, presented at 1st Workshop on High Performance Computing & Applications, Middle East Technical University (2019)

Prophoton, METU Aug 2019 - Jun 2020
Data Science Volunteer, Part Time
Skills: Python, Tensorflow, Pandas, Numpy, Matplotlib

- Applied Convolutional Neural Networks to achieve spectral splitting and light concentration, presented at Fotonik 2019, Koç University
- Accelerated calculation of spectral splitting material properties by 99.8% utilizing vectorization and Einstein summation, eliminating nested loops

Physics Department, METU Oct 2017 - Jun 2018
Computer Lab Assistant, Part Time
Skills: Linux, Windows Server

FREELANCE EXPERIENCE

GPT Web Application 2023
Skills: Python, JavaScript, HTML, CSS, SQL, Flask Rest API, LLMs, OOP, GIT, Agile, Docker
Goal: Design a web application to automatically fill documents
Solution: ChatGPT, Python, PostgreSQL backend with HTML-JavaScript Frontend Web Application
Due to client confidentiality, specific project details cannot be disclosed. Please contact me directly for further information. Thank you for your understanding.

AI Trainer for Erasmus+ Project 2023
Skills: LLMs, Image Generation, Story Generation, AI Ethics
Description: Acted as AI trainer for a Erasmus+ Project LTTA event in Czech Republic.