Elif Cansu YILDIZ

Computer Science Master's graduate with a focus on machine learning. With a team-oriented attitude, I am eager to contribute my skills to developing machine learning solutions to enhance the capability of systems.

Education

M.Sc. in Computer Science
Oct 2020 – July 2023

University of Bonn — Bonn, Germany

- Master's Thesis: Improving Disease Detection with Deep Learning by Examining the Symmetrical Features of the Lungs
- Final Grade: TBD

B.Eng. in Computer Engineering
Sept 2014 – Sept 2018

Yıldız Technical University — İstanbul, Turkey

- Bachelor's Thesis: Data Mining Library on Sparkling Water Framework
- Graduated as an Honour Student

Work Experience

Student Research Assistant
Sep 2022 – July 2023

Fraunhofer-IAIS — Bonn, Germany

- Developed deep learning pipeline for video-based supervised medical imaging task with PyTorch Lightning. Prototyped state-of-the-art image-based deep learning models with PyTorch.
- Prepared Python scripts for the automatic evaluation of experiments by using Numpy, Pandas, and Scikit-learn.
- Experiment tracking and monitoring with Weights and Biases. Prepared visualizations with Matplotlib and Seaborn. Arranged distributed training and reproducibility of the deep learning models.

Student Research Assistant
May 2021 – Jan 2022

University of Bonn - Agricultural Robotics Group — Bonn, Germany

- Implemented unsupervised machine learning methods to post-process the Mask R-CNN deep learning model to provide softer pepper detection capability by using Sci-kit Learn and PyTorch with Python.

Research and Development Engineer
Oct 2018 – Sept 2019

Link Bilgisayar — İstanbul, Turkey

- Researched and developed a scalable resource management system by analyzing the streaming data obtained from Docker container statistics with Python.
- Performed real-time data filtering with Spark SQL, arranged a producer-consumer pattern with Kafka, stored the live data on HDFS and MongoDB, and analyzed the stored data with Spark MLlib.

Intern R&D Engineer
Feb 2018 – June 2018

Cybersoft — İstanbul, Turkey

- Developed a data mining library handling data pre-processing, classification, and clustering on finance data using the Sparkling Water framework with Python.
- Benchmarked the distributed multi-node structure using the algorithms of the developed library and obtained up to 42% better performance in computation time.

Projects

Stereo Depth Estimation
September 2021

Lab Project — University of Bonn

- Implemented PSMNet and GC-Net deep learning models to address a stereo depth estimation problem using PyTorch. Achieved %65 better performance compared to the baseline and attained the highest grade (1.0).

Personal Info

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in/elif-cansu-yildiz
github.com/elifcansuyildiz
Work Permit in Germany

Skills

Programming: Python, SQL, C/C++

Machine Learning: Numpy, Pandas, Spark MLlib, Sci-kit Learn, H2O, Sparkling Water

Deep Learning: PyTorch Lightning, PyTorch, TensorFlow

MLOps: Docker, Weights & Biases

Big Data: Spark, Hadoop, Kafka, HDFS

Computer Vision: OpenCV

Visualization: Matplotlib, Seaborn

Version Control: Git

Operating Systems: Linux, Windows

Others: Data Analysis, Research, Probability and Statistics, Linear Algebra

Personal: Communication, Collaboration, Creative Thinking, Active Learning, Problem Solving, Teamwork, Pair Programming

Certificates

TensorFlow Developer Specialization
by deeplearning.ai on Coursera

Deep Learning Specialization
by deeplearning.ai on Coursera

Languages

English - Fluent

Turkish - Native

German - Beginner