Cavit Çakır

Contact

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Nationality: Turkish
Gender: Male

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Languages

Turkish *native*
English *advanced*
German *basic*
Spanish *basic*

Programming

Python, Pytorch, Numpy, Tensorflow, C++, JavaScript, React Native, React, Nodejs, mySQL, git, Docker

Activities

- Sabanci University:
  - Founder of Board Games Club
  - Board Member of Newcomers Club
  - Board Member of Outdoor Sports Club

Hobbies

coffee brewing, origami, archery, outdoor sports, board games

Summary

As a Master's student in Informatics, I am an enthusiastic learner who is eager to apply state-of-the-art techniques and methods to solve complex problems. I have completed successful projects in Natural Language Processing and Computer Vision, and gained valuable hands-on experience in programming languages such as Python, C++, and technologies like PyTorch, TensorFlow, React, React Native, Node.js, and Solidity. Currently, I am working as a Working Student on Computer Vision and I am excited to further enhance my skills and gain more experience.

Education

2021- **Technical University of Munich** Munich/GERMANY
Masters's degree Informatics
Areas: Computer Vision, Machine Learning

2016-2021 **Sabancı University** Istanbul/TURKEY
Bachelor's degree Computer Science and Engineering
Partial Scholarship
Computer Science GPA: 3.78/4.0
Overall GPA: 3.29/4.0

2012-2016 **Izmir Private Turk Science High School** Izmir/TURKEY

Selected Projects & Research

2022-2023 **NLP and Knowledge Graphs for Research Cluster Prediction and Analysis**
TUM-DI-LAB Interdisciplinary Project
- Worked on **Unsupervised Classification of Research Papers** and proposed a novel Hierarchical Classification Method while successfully applying existing methods.
- Used various embedding models, such as SPECTER and Word2Vec, to enhance embedding quality.

2022-2023 **Panoptic Neural Field**
Advanced Practical Course
- Implemented the Panoptic Neural Field paper using Kaolin Wisp and the KITTI 360 dataset.
- Optimized the architecture of the PNF by incorporating the Instant-NGP, resulting in improved performance.

2022 **Emotional Clustering of Social Media Users**
Advanced Practical Course
- Used pre-trained **BERT Model** and used its last 4 hidden layers' embeddings to cluster users.
- Preprocessed Reddit users posts according to pre-trained model.
- Applied different **Dimensionality Reduction Methods**, **HDBSCAN**, and **KMeans**.

2022 **3D Machine Learning Project**
Machine Learning for 3D Geometry Course
- Improved point cloud shape analysis of a Point Cloud Transformer using Curve Aggregation method.
- Transformed Jittor implementation of Point Cloud Transformer to **Pytorch**.
- Used ShapeNet Parts dataset.

2022 **3D Perception for Autonomous Driving**
Advanced Seminar Course
- Worked on 3D Object Tracking Methods with the Focus on Infrastructure sensors.
- Compared recently published papers from top conferences.
- Written survey paper.

2020-2021 **Graduation Project - Meeting Scheduler Chatbot**
Advisor: Reyyan Terzioglu, Duygu Karaoğlan Altop
- Used **RASA Bot Framework** to develop the chatbot.
- Used **pretrained natural language understanding(NLU)** methods to process user inputs.
- Implemented GUI by using **React, Nodejs and Docker**.

2020 **Lexicon and Rule-based Named Entity Recognition**
Natural Language Processing Course
- Collected and preprocessed Turkish and English tagged data.
- Written **25 regex expressions** to catch entities.

2020 **Skin Cancer Classification**
Machine Learning Course
- Used **CNN and Transfer Learning** in order to help early diagnoses of skin cancer by the images of the skin segment
- Compared various machine learning methods that are suitable for this problem.

2019 **Predicting Spotify Top List by Country Based on Weather Project**
Intoduction to Data Science Course
- Designed and implemented machine learning techniques to predict if song will be in top list or not, based on weather for Introduction to Data Science Course Project.

Experience

Dec22 - **Computer Vision Working Student** Munich/GERMANY
Advisor: Benjamin Taheri
Quasara GmbH
- Worked on a **Damage Classification** project.
- Took place in Preprocessing, Training, and Deployment stages.
- Used various Transformer models from Hugginface and EfficientNet.

July20 - Oct20 **Machine Learning(NLP) Intern** Istanbul/TURKEY
Supervisor: Alptekin Kupcu
FineSci Technology
- Worked in **Classification and Clustering of News** project.
- Used Neural Natural Language Learning methods and transfer learning.
- Used **BERT** and other Transformer models.

Feb19 - Feb20 **Undergraduate Teaching Assistant** Istanbul/TURKEY
Instructors: Gulsen Demiroz, Duygu Karaoğlan Altop
Sabanci University
- Supported instructor with lab sessions for **Introduction to Computing** course. Used **C++** as main programming language.
- Mentored students during office hours and through one-to-one tutorials.
- Conducted interactive discussions on a weekly basis with 20-30 students and assisted them in clarifying questions.