Zehranaz Canfes

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Education

Master of Science | Computer Science | October 2022 - April 2025
***Technical University of Munich**, Munich, Germany*

Bachelor of Science (Double Major) | Computer Engineering | September 2018 - June 2022
***Bogazici University**, Istanbul, Turkey*
GPA: 3.45/4.00

Bachelor of Science (Double Major) | Mathematics | September 2017 - June 2022
***Bogazici University**, Istanbul, Turkey*
GPA: 3.45/4.00

Work Experience

Computer Vision Student Researcher | October 2023 - Present
Computer Vision Group, Technical University of Munich, Munich, Germany | cvg.cit.tum.de

- Working on a **research project** in **3D computer vision, shape representation** and **deformation** to be submitted to one of the top conferences in computer vision.

Generative AI Researcher | Internship | April 2024 - October 2024
The BMW Group, Munich, Germany | bmwgroup.jobs

- **Trained** and **tested** state-of-the-art 3D generative models usind different surface representation methods such as **B-reps, NURBS, point clouds** by using **Python**, **PyTorch**, **PythonOCC**, **occwl**, and **geomdl**.
- Performed **latent space analysis**, advanced **quantitative and qualitative analysis** on 3D generative models using **CATIA**, **scikit-learn**, and **PyTorch3D**. leading to better understanding of the proposed method's behavior. The results are used for further research in BMW.

Research Internship | April 2023 - July 2023
Computer Vision Group, Technical University of Munich, Munich, Germany | cvg.cit.tum.de/

- Participated in the practical course: Shape Reconstruction and Matching in Computer Vision. **Improved** an existing approach to work on **multi-view 3D reconstruction** of objects with non-trivial backgrounds by using **Python**, **Pytorch**, and **Pytorch3D.** The project will be **used by the Computer Vision Group** for further research.

Undergraduate Researcher | October 2021 - June 2022
Creative AI Technologies Research Lab, Istanbul, Turkey | catlab-team.github.io

- **Published a paper** on 3D avatar editing guided by text or images by manipulating the latent space of a 3D generative network at the **WACV 2023 conference**. The model is implemented using **Python**, **Tensorflow**, and **PyTorch,** and achieves **34% higher scores** than previous approaches.

Artificial Intelligence Researcher | Internship **|** July 2021 - September 2021
Università di Bologna, Bologna, Italy | ai.unibo.it

- **Proposed a neural network architecture** (autoencoder model) to detect anomalies in a semi-supervised way by using **Python** and **Tensorflow**. The proposed architecture **increased the F2-score by 30%.**

Class Projects

Machine Learning for 3D Geometry

- Adapted the codebase of the paper 3D-LMNet, which originally used **TensorFlow 1.3**, to **PyTorch**. The project involved ensuring that the code maintained its original functionality and performance for the task of **single-view reconstruction** of 3D point clouds.The code can be found here.

Machine Learning

- Implemented various machine learning models and algorithms by using **Python**. The code can be found here.

Software Engineering | Backend

- Implemented backend for a story and picture sharing web application by using **Python**, **Django**, **MongoDB**, and **Docker**, which is **deployed** to **AWS**.
- Wrote **clean code** using **git** and was a part of an **agile methodology**.

Publications

Text and Image Guided 3D Avatar Generation and Manipulation, IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2023
Zehranaz Canfes, M. Furkan Atasoy, Alara Dirik, Pinar Yanardag
Access paper here. Access code here.

Certificates and Awards

Scholarship | DAAD-TEV
DAAD-TEV-Master's Degree Scholarship

IELTS
8.0/9.0

German Language Certificate | Sprachdiplom Kultusministerkonferenz
Level II, C1

Neural Networks and Deep Learning | Coursera
See Credential