PAVAN KUMAR SINGH CANPUR

+49-15782472673 • pavan_kumar_singh.canpur@mailbox.tu-dresden.de

Experience

TU DRESDEN, JAN 2022 - JUNE 2022 Dresden, Germany
Research project
AR Room Visualization:
Developed AR Application using Unity, 360-degree Image Capturing, Alignment Methods, QR Code, Room Permanent Object Detection, YOLOv4 Integration

- Visualized **AR** rooms by capturing 360-degree pictures with a GoPro
- Tested different alignment methods such as QR code, manual, and **object detection**
- Developed an AR application using Unity
- Utilized **YOLOv4** for object detection

VRKETING, SEP 2021 - MAY 2022 Dresden, Germany
Computer vision engineer intern
Landmark Detection for 3D Model Watch & Hearing Piece Mounting:
Developed a two-layer detection system using YOLO and U-Net/Hourglass architecture to align 3D models onto the wrist and ear

- Worked on detecting landmarks for mounting 3D models on wrist and ear
- Utilized **YOLO** for bounding box detection
- Used **U-Net/Hourglass architecture** for landmark detection
- Placed 3D models on wrist and ear using Unity

START-UP (Funded by Der Freistaat Sachsen), JULY 2022 - JANUARY 2023 Dresden/Germany
Computer vision engineer
Clothing Feature Extraction from Influencer Image:
Worked on a start-up to extract clothing features from influencer images to search for similar clothing catalog items.

- Extracted features of clothing from influencer images.
- Matched search with similar category catalog for customers using a **nearest neighbor basic algorithm** for product matching.
- Coordinated in integrating the system with the company's e-commerce platform to provide a seamless shopping experience for customers.

TU DRESDEN, APR 2020 – OCT 2020 Dresden, Germany
Student assistant
Visualizing Movement Patterns Using Augmented Reality in Unity:
Created AR visualizations of clusters where users spend significant time using density-based clustering and Convexhull algorithm at TU Dresden.

- Visualized movement patterns using AR in **UNITY**
- Used **DBSCAN** for density-based clustering
- Integrated **API** for data collection
- Built Convexhull algorithm for cluster representation in UNITY

CASUS (CENTER FOR ADVANCED SYSTEM UNDERSTANDING), OCT 2020 – JAN 2021 Dresden, Germany
Research student
Forecasting COVID-19 Cases with Hybrid Epidemiological-Deep Learning Model:
Implemented a hybrid model combining the SIR model and LSTM neural network to forecast COVID-19 cases at CASUS.

- Forecasted COVID-19 cases with a **hybrid epidemiological deep-learning model**
- Used the SIR Model for epidemiological simulation
- Implemented a **LSTM neural network** to learn long-term dependencies
- Utilized GPU parallelization to reduce computational time

Education

Technische Universitaet Dresden, Masters in **Visual Computing**.

- Studying Master's program consists of Computer vision, Machine Learning, Computer Graphics and User Interface.

Additional

- Proficient in **C++** with a focus on Object-oriented
- Expertise in **C#, python, javascript**.
- Expertise in computer vision and Deep Learning frameworks **(OpenCV, Pytorch, Tensorflow**).
- Expertise in **UNITY**
- Good knowledge in **BLENDER, UNREAL ENGINE**.
- Good knowledge in **backend API** and frondend **html, flutter**.
- Good knowledge in **AWS.**
- **Languages** : Englisch – Fluent ,Deutsch – A2 level.