Sanket Shah

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EDUCATION

UNIVERSITY OF BONN
Masters in Computer Science
2019-2022

MUMBAI UNIVERSITY
BE in Computer Engineering
2014-2018

SKILLS

Development
- C++ • CUDA • OpenCV • LibTorch
- Thread Programming • ROS
- Python • Pytorch • ONNX

Deployment
- TensorRT Quantization and Plugins
- NVIDIA Orin Driveworks, DRIVE OS
- Docker • CI/CD Pipelines

Concepts
- Deep Learning - Lidar,Camera and Radar based 3D Detection, Tracking, Velocity Estimation, Lane Segmentaiton.
- Computer Vision - 3D computer vision, Structure from Motion, Optical Flow, Point Cloud Processing
- Robotics - Sensor Fusion, SLAM, Motion Planning, Control Systems
- Sensor Setup - Lidar, Camera and Radar Calibration and Synchronization

LINKS

Website:// https://sanket-pixel.github.io/
Github:// sanket-pixel
LinkedIn:// sanket-shah-33a3a2135

COURSEWORK

Graduate
Computer Vision(CVI)
Machine Learning(CVII)
Deep Learning
Foundation of Graphics
Cognitive Robotics
Techniques of Self-Driving Cars
Reinforcement Learning

Undergraduate
Applied Mathematics
Operating Systems
Data Structures and Algorithms
Databases and Distributed Databases
Computer Networks
Computer Architecture
Artificial Intelligence

RELEVANT EXPERIENCE

MOTOR AI GMBH | Perception Engineer
November 2022 - Present | Berlin, Germany
- *Deep Learning based Camera-Lidar-Radar Fusion Model.* Used C++, CUDA, TensorRT, Pytorch.
- *Monocular 3D Detection.* Achieved 3x inference boost by quantization. Used C++, TensorRT, Pytorch.
- *German Traffic Sign Detection* at 100FPS. Deployed on vehicle.Used C++, ROS, CUDA, Pytorch, TensorRT.

ARTISENSE GMBH | Perception Researcher
April 2022 - August 2022 | Munich, Germany
- *Monocular 3D reconstruction for autonomous vehicles* .Implementation of inhouse research paper.
- *Monocular depth estimation* model training on internal 4seasons dataset.
- *Moving object segmentation* mask model.
- Research Project in collaboration with *Technical University of Munich* under guidance of **Dr. Prof. Daniel Cremers.**
- Worked with Python using Pytorch, Numpy, Pandas and Open3D libraries.

DINEXT GMBH | Data Scientist Werkstudent
Mar 2021 – Mar 2022 | Saarland, Germany
- Lead the data science operations reporting to the CEO.
- Designed, Developed and Deployed(in production) more than 30 Machine Learning powered PowerBI dashboards with over 200 KPIs.

SEPAGO GMBH | Data Scientist Werkstudent
Feb 2020– Feb 2021 | Cologne, Germany
- Worked on machine learning in cybersecurity using unsupervised learning.
- Worked with internal team to develop over 50 KPIs for detecting cyber-attacks.

NETMONASTERY LTD | Software Development | Data Scientist
Sep 2018– Sep 2019 | Mumbai, India
- Worked directly with CEO on machine learning models for cybersecurity.
- Integrated over 10 real-time ML models within their flagship product.
- Worked on data ingestion architecture with technologies like ElasticSearch.

PROJECTS

Camera-Lidar-Radar fusion based 3D Object Detection. Low-Level Latenct Fusion Model for multi-view camera, lidars and radars to solve 3D Detection and Lane segmentation. Implemented TensorRT plugins for unsuported operation. CUDA accelarations for parallelizable operations. 2x inference speedup.

Monocular 3D Detection Developed a 3D Object Detection model with corresponding TensorRT engine and inference in C++. Achieved 3x inference speedup after quantization. Deployed on vehicle.

Stereo Visual SLAM Implemented a feature-based visual odometry using features, and a keyframe-based map management and optimization backend. Implemented using ROS, C++, OpenCV and Eigen Library.

Self-Supervised Multi-Object Tracking Trained MOT tracking model *without* annotated data with contrastive learning and transformers.

Multi-Threaded Face Mask Detection Developed a face-mask detection in C++ using OpenCV. Multi-threading was used to run image preprocessing, inference and post-processing on independent threads.