Mayank Ukani

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Skills

- Python | Pytorch | C | DSA | Data processing | Qualcomm SNPE | Nvidia Deep-Stream | 3D Computer Vision | NLP
- Deep Neural Networks | CNN | Machine Learning | Simulation | Synthetic Data Generation | Robotics | VSLAM | OOP
- Git | Flask | Azure | CI/CD | WiFi | Embedded Systems | English, Hindi, Sindhi, Gujarati– All professional proficiency or above

Experience

Engineer **Einfochips (An Arrow Company)** *Ahmedabad, Gujarat* **04/2022 - Present**

- Successfully generated synthetic data and trained an object detection and segmentation model, achieving a remarkable accuracy of 92% upon deployment in the real world. Led the entire process, from data generation to model training, while collaborating with a team of professionals. The elimination of manual data annotation saved 30% of the project timeline.
- Spearheaded simulation-based testing of robotics applications, ensuring efficient and accurate evaluation of system performance while minimizing costs and risks associated with physical testing of Visual Simultaneous Localization and Mapping (VSLAM) techniques, enabling precise localization and mapping capabilities for robotic systems, resulting in improved navigation and obstacle avoidance.
- Generated synthetic data for 6D pose estimation model and successfully deployed it on edge devices. Improved model accuracy and performance by training on synthetic data, enhancing real-world applicability which gave an ADD score of 86.7 percent. Further implementing model ensemble with a 2D proposal network and establishing an end-to-end pipeline for real-time inference.

Associate Engineer **Volansys Technologies** *Ahmedabad, Gujarat* **12/2019 - 04/2022**

- Object detection using Mask R-CNN: A Machine Learning application that can process thermal images to identify the electrical components and calculate the hotspots' severity.
  - Trained and deployed object detection using Mask R-CNN on Azure, which was later fed to a Machine Learning model(Random Forest) to calculate the statistical temperature and predict the hotspot scale.
  - Managed a team of 6 individuals in image annotation techniques and best practices for training data preparation, resulting in a 95% machine learning model accuracy.
- Developed and implemented firmware solutions to address WiFi vulnerabilities for a multinational semiconductor company. Applied expertise in identifying and resolving security issues to enhance network protection and mitigate potential risks.
- Automatic Image stabilization: A feature called the true horizon. The customer uses an Endoscopic device whose video feed must remain at the 0'th angle.
  - Developed OpenCV API for media handling to reach system requirements.
  - Developed Gstreamer pipelines required for media execution.
  - Configured WiFi functionalities for wireless communication between the device and monitor for Miracast.

Software Engineer, Intern **Hubincred** *Ahmedabad, Gujarat* **05/2019 - 08/2019**

- Managed client's website to meet desired stability on the servers.
- Developed a lower-level requirement for the website using CSS and HTML.

Education

Bachelor of Science **Charusat University** *Anand, Gujarat* **08/2016 - 04/2020**

- Bachelor of Technology in Electronics and Communication

Projects

- Face Mask Detection: In this project, I trained a neural network using Mobilenet as the backbone to determine whether a person is wearing a face mask as per covid guidelines or not. The average accuracy of the model was 95%. Framework used was Tensorflow.
- Student Performance Analysis: Created generic end-to-end MLOPS pipeline from data ingestion from a server to deploying on AWS ElasticBean with CI/CD pipeline. The model gave >85% accuracy

Awards/Achievements

- Contributed as a key member of a high-performing team that was honored with the "Best Team" award for outstanding achievements
- The youngest member of the team to be awarded the "Best Performer" for outstanding individual performance and achievements

Certifications

- Udemy: Machine Learning A-Z™: Hands-On Python & R In Data Science
- Udemy: Deep Learning A-Z™: Neural Networks, AI