Sharath Jotawar

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Address: Blk 110, Jurong East, Singapore.
Visa Status: On Employment Pass
Nationality: Indian

Professional Summary

- 6 years of software development experience in C++, Python.
- Specialized in the development of algorithms on computer vision, machine learning, deep learning with Master's degree in Signal Processing.

Skill Sets

- **Programming Languages:** C++, Python, HTML, CSS, JavaScript
- **Technical Skills:** OOP concepts, dynamic programming, multi-threading, data structures and algorithms.
- **Software Libraries:** OpenCV, PCL, Keras, Tensorflow, numpy, matplotlib, pandas, ROS, MoveIt, Gazebo.
- **Operating System:** Linux Ubuntu
- **Version Control Systems:** Git

Experience

Transforma Robotics Pte Ltd, Singapore as Software Engineer **Mar '18 to Present**

- Semantic segmentation and detection in an indoor environment using Mask R-CNN deep learning model to extract information and segment out objects present on wall. Made use of ResNet as base network for extraction of CNN features. Deployment of the model on Nvidia Jetson Tx2 platform.
- High-level task planner for complex behavior of robot and backend communication for human machine interface through WebApp.

Tata Consultancy Services Innovation Labs, Bangalore, India as Researcher **Aug '14 to Mar '18**

- Real time object detection in a cluttered environment using Faster R-CNN deep learning model Video.
- Primitives shapes-based object model matching using SUPER4PCS for estimation of grasp pose Video.
- Localization of grasp regions on novel objects through 3D geometric surface fitting Video.

Continental Automotive Components India Pvt Ltd as Graduate Engineer Trainee **Aug '10 to May '11**

Responsibilities: Conducting verification of circuit design of different modules in prototype Engine Control Unit.

Self-Learning Projects

- CNN model for multi-class classification of 43 different German traffic signs. Achieved classification accuracy of 97.2% on test dataset. Link: https://github.com/sharathrjtr/german_traffic_sign_classification.
- Prediction of steering angles through the images obtained from a dashboard camera for a simulated autonomous vehicle using CNN model. Link: https://github.com/sharathrjtr/autonomous_car_driving.
- Model for multi-label tagging of fashion products trained using transfer learning on VGG16 model with imbalanced training dataset. Achieved train data F2 score: 0.71, test data F2 score: 0.66. Github Project Link.

Achievements & Publications

- Member of Team IITK-TCS which participated in **Amazon Robotics Challenge**, held in RoboCup 2017, Nagoya, Japan. Won 3rd place in pick task and 4th place in the final round out of 16 teams in the competition.
- **Paper:** Design and development of an automated robotic pick & stow system for an e-commerce warehouse. Available at https://arxiv.org/pdf/1703.02340.pdf

Academic Background

M Tech. in Electronics & Electrical Engineering with Specialization in Signal Processing **Institute: Indian Institute of Technology Guwahati (IIT Guwahati), India** **Project:** Improving Sparse Representation using NN-LASSO for Robust Automatic Speech Recognition. Implemented using GMM-HMM based HTK tool kit.	Yr: 2012-14 CPI: 8.34
B.E. in Electronics & Communication Engineering **Institute: BMS College of Engineering, Bangalore, India.**	Yr: 2006-10 Avg: 71.9 %