Sharath Jotawar

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Country: Singapore (Visa: EP)
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 for robotic automation.

Skill Sets

- **Programming Languages:** C++, Python, HTML, JavaScript
- **Operating System:** Linux Ubuntu
- **Version Control Systems:** Git
- **Software Libraries:** OpenCV, PCL, Keras, Tensorflow, numpy, matplotlib, pandas, ROS, MoveIt, Gazebo

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.
- 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**

Projects:

- 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.
- Motion planning for an automated pick and place robot in a retail warehouse using MoveIt Video1, Video2.

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. Link: https://github.com/sharathrjtr/CNN_model_fashion_products_multi_label_tagging

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**	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 %