Sharath Jotawar

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Date of Birth: 28/09/1988
Country: Singapore **Nationality:** Indian

Professional Summary

- 5+ years of software development experience in C, C++, Python.
- Specialized in the development of algorithms on computer vision, machine learning and motion planning for robotic automation.

Skill Sets

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

Experience

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

- Deep learning based semantic segmentation and detection in an indoor environment for autonomous navigation of robot and wall detection for painting.
- High-level task planner for complex behavior of robot and backend communication for human machine interface through WebApp.

Tata Consultancy Services, Bangalore, India as Software Engineer   **Aug '14 to Mar '18**
Projects:

- Real time object detection in a cluttered environment using Faster-RCNN 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 Engg. Trainee   **Aug '10 to May '11**
Responsibilities: Conducting verification of circuit design of different modules in prototype Engine Control Unit.

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, 5th place in stow task and 4th place in the final round out of 16 teams in the competition. Link: https://sites.google.com/site/swagatkumar/iitk-tcs-arc-2017
- Member of team **IITK-TCS** which participated in **Amazon Picking Challenge**, held in RoboCup 2016, Leipzig, Germany. Achieved 5th place in stow task, 10th place in the pick task out of 16 teams in the competition. Link: https://sites.google.com/site/swagatkumar/home/apc_iitk_tcs
- **Paper:** Motion planning for an automated pick and place robot in a retail warehouse. Accepted at Advances in Robotics 2017, India. ACM DOI: 10.1145/3132446.3134904. Available at: https://sharathrjtr.github.io/docs/Motion_Planning_AIR_2017.pdf
- **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 %