

# Sharath Jotawar

LinkedIn: [www.linkedin.com/in/sharath-jotawar](http://www.linkedin.com/in/sharath-jotawar)

Website: <https://sharathrjtr.github.io/>

Contact: +65-90819386

Email Id: [sharathrjtr@gmail.com](mailto:sharathrjtr@gmail.com)

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, PCL, Keras, numpy, matplotlib, pandas, ROS, MoveIt, Gazebo

## 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 Engineer 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 3<sup>rd</sup> place in pick task, 5<sup>th</sup> place in stow task and 4<sup>th</sup> place in the final round out of 16 teams in the competition. Link: <https://sites.google.com/site/swagatkumar/iitk-tcs-arc-2017>
- **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](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

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