

Shivang Tripathi

Research Intern

Actively seeking a fast-paced robotics engineering role to utilize my 3 years of experience in developing and optimizing robotic systems in a time-constrained environment. The love for intelligent systems drove my innovative ventures (both individual and team), the best of which helped me secure a six-figure scholarship from the Father of the Self-Driving Cars, Sebastian Thrun.

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WORK EXPERIENCE

Research Intern

Indian Institute of Technology, Delhi

07/2018 – Present

Achievements/Tasks

- Developing autonomous navigation capabilities on the Robotic platform, RoboMuse 5 using ROS
- Integrating SLAM and path planning algorithms for robot navigation.

Summer Intern

KUKA Robotics

05/2017 – 07/2017

Gurugram

Achievements/Tasks

- Improved the real time communication of YouBot.
- Integrated vision into the YouBot using ROS and LabVIEW.

Contact: Mr. Abhijeet Nehra – abhijeet@kuka.in

PROJECTS

CopyBot - An Intuitive HMI (2016)

- Developed an intuitive HMI for unskilled workers to easily carry out complex tasks using hand gestures.
- Selected as the top 20 project in NIYantra 2016.

Object Detection for Willow Garage PR2 (2017)

- Implemented a perception pipeline to use the RGB-D sensor for acquire object data from a cluttered space in Gazebo.
- Applied classical and machine learning approach for clustering the point cloud data.
- Achieved classification accuracy upto 94% using an SVM.

SLAM using a Custom Built Robot (2018)

- Built a 4 wheeled robot platform fitted with Hokuyo rangefinder and Kinect in the Gazebo simulation.
- Implemented SLAM using RTAB-Map on ROS with a LIDAR and Kinect in Gazebo. Generated maps can be used for robot navigation and path planning pipeline.

CAMPUS ACTIVITIES

Student Ambassador (08/2017 – 06/2018)

AKGEC FABLAB - An outreach project from MIT's Center for Bits and Atoms (CBA)

- Disseminated information about the facilities offered by the FABLAB (3D Printers, Laser Cutter, PCB Miller) to the students.

Head Programmer (08/2015 – 08/2017)

Team Robocon - The college team competing in Robocon every year.

- Optimized previous stack to tackle the new problem statements published by the ABU Robocon.

ACHIEVEMENTS

Robotics Trainer at Banasthali University (07/2017)

Trained the faculties of Automation department on the future potential of Robot Operating System with practical hands-on experience.

2nd runner up in Crossroads 2016-State Level Innovation Competition (10/2016)

Developed open loop control system for remote 3D monitoring of the mobile system in real time.

Bronze in Week of Code 25, Week of Code 29 (2016 – 2017)

Won the bronze medal in HackerRank's Week of Code for solving the given set of algorithmic problems using Python within the given time.

Qualified Google Code Jam (2017)

Solved the given algorithmic problems within specified deadline.

NIYantra Finalist - Annual System Design Contest (10/2016)

Was among the top 20 most innovative finalists out of 2000 participants at NIYantra 2016 held by National Instruments in Bangalore.

17th in the National ABU Robocon (2017)

Secured overall 17th rank among 112 teams of top colleges of India.

Bronze in National Science Olympiad, Science Olympiad Foundation (2014)

SKILLS & COMPETENCES

Languages	Python, Java, C, JavaScript
Utilities	ROS, Tensorflow, OpenCV
Softwares	Nvidia DIGITS, Gazebo, RViz

EDUCATION

Robotics Software Nanodegree

Udacity (in collaboration with Nvidia)

08/2017 – Present

Courses

- Perception (RGBD Camera)
- Kinematics (in KR210)
- Deep Q Learning (Gazebo)
- Deep Learning (on QuadSim)
- SLAM (RTAB-Map)
- Path Planning

B.Tech in Electrical Engineering

Dr. A.P.J. Abdul Kalam Technical University

2014 – 2018

Ghaziabad, India

INDIAN SCHOOL CERTIFICATE (CISCE)

City Montessori School

04/2012 – 04/2014

Lucknow, India