Saurabh Palande

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EDUCATION

Visvesvaraya National Institute of Technology (VNIT) **Nagpur, India**
Bachelor of Technology in Mechanical Engineering *July 2015 - May 2019*

- *Graduated with CGPA of 9.16/10.*
- *Awarded with Late Mr. Anil Dharashivkar Prize for securing the third-highest CGPA in the 2019 Batch of Mechanical Engineering.*

TECHNICAL SKILLS

- **Operating Systems**: Linux, Windows
- **Programming Languages***:* C/C++, Python, MATLAB
- **Miscellaneous***:* Rviz, Gazebo, ROS, V-REP, OpenCV, TensorFlow, Solidworks, ANSYS

WORK EXPERIENCE

Shyena Tech Yarns,Pune, India
Computer Vision Intern *March 2021– Present*

- Working on 3D Lidar point cloud data, classification, segmentation and 3D object detection algorithms.

Space Renaissance-Indian Chapter, India
Robotics Research Intern *October2020– Jan 2021*

- Conducting research focused on robotics design & mechanism, dynamics & control of robotics, sensors, actuator-based applications for robotics.

SIEMENS Ltd, Goa, India
Graduate Trainee Engineer *July 2019 – Feb 2020*

- Studied the working, production and assembly of SIEMENS Switchgears and Ring Main Units (RMU).

SIEMENS Ltd, Kalwa, India
Mechatronics Certification Program *December 2017*

- Successfully completed one-month Siemens India Training (SITRAIN) in certified course "Mechatronics and Process Automation".

SIEMENS Ltd, Kalwa, India
Mechanical Engineering Intern *June 2017 – July 2017*

- Studied the production and manufacturing process of Electric Motors.
- Gained Key insights on the Industrial Robots used in the manufacturing of Electric motors.

ACADEMIC PROJECTS

Autonomous driving and path planning using SLAM (Simultaneous Localization and Mapping) algorithm for a differential robot in ROS using Gazebo and Rviz.

- Created a custom robot model using URDF.
- Implemented Path planning with Custom Robot in Robot Operating System using Gazebo and Rviz.

Computer Vision Project: Implementation of Ball Tracking algorithm in ROS using OpenCV.

- Developed a ball tracking program that read video frames from a video file, a ROS Image topic and a USB camera through ROS.

Participated in the event RoboCup in AXIS'15, annual technical festival of VNIT, Nagpur. (Team of 4)

- Designed and fabricated a manually controlled robot with ball kicking mechanism to kick and push a ball into an opponent's goal post.

Design and Analysis of the use of stiffeners on the front loader of Earth moving machine. (B. Tech Thesis)

- Performed the Finite Element analysis of the loader bucket to find an accurate location and pattern of welding of stiffener to the loader bucket sidewall.

RELATED COURSEWORK

- **Theory of Machine** – Basic concept of mechanisms, links, kinematic pairs, kinematic chain, Static and Dynamic force analysis, Vibration in mechanical systems.
- **Design of Machine Elements** – Design Principles, Theories of failure and factor of safety, Material Selection.
- **Industrial Robotics** – Construction of manipulators, Forward kinematics, Inverse kinematics and Jacobian for serial and parallel robots, Manipulator dynamics and force control.
- **Manufacturing Process Automation**-Automated production lines, programming of CNC machines.
- **Machine Vision Application** - Basics of computer vision, Image processing algorithms, Modeling and registration.
- **Artificial Intelligence in Manufacturing** - Overview of artificial intelligence, Fuzzy logic, Genetic algorithms, Artificial Neural Networks.

ONLINE COURSES & CERTIFICATIONS

- **Aerial Robotics - University of Pennsylvania**
- **Robotics: Estimation and Learning – University of Pennsylvania**
- **ROS for Beginners: Basics, Motion, and OpenCV.**
- **ROS Simulating SLAM and Autonomous Driving Custom Robot**
- **Deep Learning: Advanced CNNs In Python**

ACHIEVEMENTS & HONORS

- Awarded with Late Mr. Anil Dharashivkar Prize for securing the third-highest CGPA in the 2019 Batch of Mechanical Engineering in VNIT, Nagpur.
- Awarded Consolation Prize in Maharashtra Talent Search Examination (MTSE) in April,2012.
- Successfully passed HOMI BHABHA BAL VAIDNYANIK COMPETITION in 2011 and 2008.

EXTRA-CURRICULAR

- Member of “Halla Bol”, Dramatics club of VNIT, Nagpur.
- Event Manager of ROBOWARS, for AXIS’18, the annual technical festival of VNIT, Nagpur.
- Event Organizer of ROBOWARS, for AXIS’16, the annual technical festival of VNIT, Nagpur.
- Completed ALL INDIA TREKING EXPEDITION in BELGAUM held by NCC.