Mayank Gulati

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Education & Trainings

University of Petroleum & Energy Studies (UPES) — Dehradun, India
Bachelor of Technology in Mechatronics Engineering; GPA: (3.02/4) — *Aug. 2013 – May 2017*

FANUC — Banglore, India
Robotic Arm & CNC Programming Industry Certification Training Course — *Nov. 2015 – Dec. 2015*

Experience

Padmini VNA Mechatronics Pvt. Ltd. — Gurugram, Haryana
Graduate Engineering Trainee — *Jun. 2017 – Aug. 2017*

- Performed and documented DFMEA (Design Failure Mode and Effect Analysis) of water pumping systems.
- Validated samples of water circulation pumps.
- Built CAD (Computer Aided Design) parts of solenoid valve.

Hi-Tech Robotic Systemz Ltd. — Gurugram, Haryana
Engineering Intern — *Jun. 2016 – Jul. 2016*

- Installed, configured, tested, and maintained HMI (Human-Machine Interface) for autonomous fork lift and pallet jack systems by using application software and system management tools.
- Implemented planning and tracking algorithms for autonomous systems using various packages and nodes of Robot Operating System (ROS).
- Worked on QR based Grid Navigation System for AGVs (Automated Guided Vehicles).
- Documented standards of AGVs and design concepts.

Academic Projects

CanSat Competition, 2015 (Texas, USA)
American Astronautical Society & NASA — *May 2015 – Jun. 2015*

- Led a team of four students that built and presented a working model of a satellite system.
- The satellite system simulated a science vehicle traveling through planetary atmosphere, sampling and sending telemetry data to a ground station.

Four-legged Autonomous Robot
Pre-final year Minor Project, UPES (Dehradun, India) — *Aug. 2015 – May 2016*

- Built a servo-motor powered Quadruped robot capable of traversing autonomously using Google maps API without needing any human intervention.

Development of Automatic luggage follower
Final year Major Project, UPES (Dehradun, India) — *Aug. 2016 – Apr. 2017*

- Built an automatic luggage carrier that carried loads and followed its user's path maintaining a constant distance from him/her.

Control of Hydraulic & Pneumatic Systems
Hydraulics & Pneumatics Lab, UPES (Dehradun, India) — *Jul. 2016 – Aug. 2016*

- Designed, analysed, and troubleshot circuits to automate Industrial systems using Bosch Rexroth PLCs and relays.

Driver's Assistant System
Robotics Lab, UPES (Dehradun, India) — *Mar. 2016 – Apr. 2017*

- Built a prototype model of a vision based sleep detection system that alerted driver, if detected drowsy.
- The system read facial expressions of closing eyes and yawning and detected patterns relating to a drowsy driver.
- Implemented Haar classifiers in OpenCV by using Raspberry Pi and webcam.

Technical Skills

Embedded Systems: AVR chips, Arduino, R-Pi, Kinect, Sensors (SPI, I2C, Serial), Wireless modules (Xbee, ESP 8266)
Applications: MATLAB, Octave, Dip Trace, Arduino IDE, AVR Studio, Keil Intel 8085
Languages: C, C++, Python
Open Source Platforms: OpenCV, ROS, RViz, Gazebo, TensorFlow, Version Control System: GitHub
CAD Packages: SolidWorks, Creo Parametric, NX, AutoCAD