

# DEVESH DATWANI

ROBOTICS ENGINEER  
WORCESTER, MA

## OBJECTIVE

Seeking for full time co-op positions in perception / computer vision robot

## SKILLS

### LANGUAGES

Python 3+ • MATLAB • C/C++

### SOFTWARE STACK

ROS 1 & 2 • Git • OpenCV • TensorFlow  
Numpy Keras • AWS • Django & Flask  
Linux SolidWorks • AutoCad

### HARDWARE STACK

Arduino Uno • Raspberry Pi 3 B

## EDUCATION

### MS IN ROBOTICS ENGINEERING

WORCESTER POLYTECHNIC INSTITUTE  
WORCESTER, MA  
AUG 2021 - MAY 2023

KEY COURSES:: Machine Learning • Robot Control • Computer Vision • Artificial Intelligence • AI For Autonomous Vehicles  
Robot Dynamics

### BE IN MECHANICAL ENGINEERING

APSIT MUMBAI UNIVERSITY  
MUMBAI, INDIA | AUG 2014 - MAY 2018

NOTABLE ACHIEVEMENT: Received the "Young Innovator" award for research on Plasma Actuators at the ICASTe conference

## CERTIFICATIONS

Python Programming • Robotics: Aerial Vehicles • Applied Machine Learning  
Introduction To Self Driving Cars  
Deep Learning Specialisation

## LINKS

<https://github.com/deveshdatwani>  
<http://www.linkedin.com/in/deveshdatwani>  
<http://www.devshdatwani.com/>

## CONTACT

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## RELEVANT EXPERIENCE

### SPACE GOAT | DESIGN & PERCEPTION ENGINEER

SEP 2021 - JAN 2022 | WORCESTER, MA

- Competed at the NASA Extreme Terrain Challenge 2022 to build a Mars rover while representing WPI
- Actively contributed in the design of a rover that tackles the challenges of traversing the Martian surface
- Integrated sensors with the rover and contributed to the firmware code for rover-environment perception

## RESEARCH PROJECT

### AIRFLOW INDUCTION WITH PLASMA ACTUATORS [DOC]

2017 - 2018 | ASPIT, MUMBAI UNIVERSITY

- Designed and led a research project on plasma actuators to induce air flow without the use of any moving elements
- Designed and fabricated a plasma actuator inside hollow pipes powered by a high voltage-high frequency transformer
- Observed & recorded wall-bounded jet air flow of ~ 9000 litres/hr during experiments at the aerospace department of IIT, Bombay

## PROGRAMMING EXPERIENCE

### NURTURELABS | JUNIOR WEB DEVELOPER INTERN

MAY 2021 - JUL 2021 | REMOTE

- Worked in the back-end development team to build an on-demand web application for users to generate business leads
- Merged the FastAPI and Django frameworks to build a quick and reliable web application hosted on Amazon's Web Services
- Wrote Pythonic scripts to automate data scraping from 52+ million users on Reddit, StackOverflow and ProductHunt

## ENGINEERING PROJECTS

### HUMAN POSE ESTIMATION WITH CNN [GITHUB]

MAR 2022 - MAY 2022 | WORCESTER POLYTECHNIC INSTITUTE

- Implemented the DeepPose paper to build a convolution neural network for estimating human-body pose in 2 dimensions
- Created a TensorFlow pipeline to fetch and load the FLIC dataset and train an AlexNet on a Google Colab notebook
- Recorded mean squared error values of ~ 400

### TRAFFIC SIGN DETECTION WITH MASK R-CNN [GITHUB]

SEP 2021 - DEC 2021 | WORCESTER POLYTECHNIC INSTITUTE

- Implemented adaptations to the Mask R-CNN network to enhance its performance in detecting traffic signs
- Augmented a dataset of 10,000+ traffic sign images (motion blur and condensation) to improve model performance
- Helped enhance mAP value of the r-cnn model from 0.05 to 0.25

### AERIAL VEHICLE DESIGN [DOC]

2011 - 2020 | MUMBAI, INDIA

- Designed, fabricated and flight-tested remotely operated fixed-wing planes and quad copters
- Experimented with different power-plant, wing, composite material and electronic configurations
- Gained hands on experience with aerodynamics, electronics and fabrication involved in aerial vehicle design after 200+ flights