DEVESH DATWANI
ROBOTICS **ENGINEER**
WORCESTER, MA

OBJECTIVE

Seeking for full time co-op positions in the space of computer vision and/or robot perception

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

CERTIFICATION

Python Programming ● Robotics: Aerial Vehicles ● Applied Machine Learning
Introduction To Self Driving Cars
Deep Learning Specialization

LINKS

https://github.com/deveshdatwani
http://www.linkedin.com/in/deveshdatwani
http://www.deveshdatwani.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

BOSON MACHINES | R&D INTERN
JUN 2018 - DEC 2018 | MUMBAI, INDIA
- Assisted in the design and development phases of Boson's new generation 3D printers
- Helped reduce printing time by ~ 35% by transitioning into linear guide rails
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TRAINEE | AIR INDIA
JUN 2017 | MUMBAI, INDIA
- Took part in the major engine overhaul process of a CFM-56B turbofan engine at Air India's aircraft maintenance department
- Assisted in the nondestructive testing and reporting of damaged high-pressure turbine blades
- Gained hands-on experience in maintenance of multi-million dollar aircraft engines in accordance with aviation standards

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

OTHER EXPERIENCE

ADMATAZZ | DATA ANALYST INTERN
DEC 2019 - MAR 2020 | MUMBAI
- Built web scraping tools using pythonic libraries like BeautifulSoup for scraping and parsing client specific textual data
- Assisted in building tools for data visualization

ADMATAZZ | DATA ANALYST & MARKETING EXECUTIVE
APR 2020 - DEC 2020 | REMOTE
- Worked with the marketing team to launch data driven targeted campaigns
- Developed campaign strategies on for clients on Instagram and Facebook
- Increased engagements by 65% with the help of data driven smart campaigns

ENGINEERING PROJECTS

HUMAN POSE ESTIMATION WITH CNN [GITHUB]

MAR 2022 - MAY 2022 | WORCESTER POLYTECHNIC INST.

- 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 INST

- 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 to create motion blur and condensation effect to improve model performance
- Helped enhance mAP values of the r-cnn model from 0.05 to 0.25 after training the model on the augmented dataset

TRENDS ON THE MAP [GITHUB]

NOV 2020 | MUMBAI, INDIA

- Designed and implemented a visualizer to display Twitter trends on a world map
- Built an interactive web application to display Twitter trends using the Flask framework and Twitter API
- Deployed the server on an AWS EC2 instance

AERIAL VEHICLE DESIGN [PROJECT 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

FACIAL EXPRESSION DETECTION [GITHUB]

AUG 2019 | MUMBAI, INDIA

- Built a facial expression monitoring application as part of final project of the python programming certification
- Deployed the DLIB pythonic library to build a facial map of the subject in view and hypothesized model parameters for yawns
- Gained understanding of feature extraction techniques such as Haar, SIFT and HOG for object detection

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 liters/hr during experiments at the aerospace department of IIT, Bombay

VOLUNTEER EXPERIENCE

TUTOR | SPREADING SMILES

SEP 2018 - MAR 2020 | MUMBAI, INDIA

- Taught science 1 & 2 to children of lesser privileged backgrounds at Father Agnel Church Ashram, Mumbai
- Conducted weekly classes and focused lecture delivery to ensure building strong foundation in scientific concepts
- Realizsed 80% in class 9 and 100% in class 10 passing results for the year 2019 % 2020

VOLUNTEER | SPREADING SMILES

DEC 2015 - MAR 2020 | MUMBAI, INDIA

- Volunteered to assist in logistical and on-ground service support at events conducted for community welfare
- Tutored science to children from lesser privileged backgrounds for the years 2019 & 2020
- Worked in the part time volunteer team to organize events such as christmas parties, going to cinema and more