

DHRUMIL KOTADIA

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EDUCATION

Worcester Polytechnic Institute, Worcester, Massachusetts Pursuing a Master's in Robotics Engineering	Aug 2023 - Ongoing (CGPA 4.0)
Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar, India Secured a Master of Technology with Specialization in VLSI and Embedded systems	Dec 2019
Vishwakarma Government Engineering College, Ahmedabad, India Secured a Bachelor of Engineering in Electronics and Communication Engineering	May 2017

ACADEMIC PROJECTS

Dynamic Sampling for N-Link Chain Using Workspace Decomposition

[Python, TensorFlow, NetworkX, Pillow, Scipy, Numpy]

- Designed a system to learn the parameters of a motion planner from generated training dataset and implement on a larger test map using 2D workspace segmentation.

Panorama Generation using Image Stitching and Deep Learning

[Python, Pytorch, OpenCV, Numpy]

- Created a panoramic image by utilizing Corner Detection, ANMS, Feature Matching, and RANSAC with the given scene images.
- Developed a distinct Deep Learning solution employing both Supervised and Unsupervised Learning methods for the same task.

Design of Convolutional Neural Networks

[Python, PyTorch, CIFAR-10]

- Designed simplified versions of RESNET, ResNeXt and DenseNet from scratch using PyTorch.

PD Control, Forward Kinematics and Inverse Kinematics for Robot Joint Control

[Python, ROS2, OpenMANIPULATOR-X, Numpy]

- Implemented PD Control for OpenMANIPULATOR-X 4-DOF arm.
- Implemented Pick-Object using Forward and Inverse Kinematics.

SKILLS

Robotics: Computer Vision, Motion Planning, Path Planning, Kinematics, Dynamics, Control,

Software: Python, C++, Embedded C, ROS2, OMPL, OpenCV, Pytorch, Numpy, Scipy, Scikit-Learn, Matplotlib, MATLAB/Simulink, Altium PCB Designer, AUTOSAR, LTSpice, Git, Linux, LaTeX

Soft Skills: Technical Writing, Presentations, Communication, Collaborations, Problem Solving

PROFESSIONAL EXPERIENCE

Bosch Global Software Technologies, Bengaluru, India <i>Software Project Developer – Volkswagen Diesel Engines</i>	Dec 2021 – July 2023
Electroquip Ahmedabad, India <i>Embedded Engineer – pH measurement system Design</i>	Jan 2021 – Dec 2021
Ativo Automation Ahmedabad, India <i>Co-Founder/Hardware Engineer – Home Automation System Development</i>	Feb 2020 – Jan 2021

EXTRA CURRICULAR ACTIVITIES

- Completed the seven-year "Upantya Visharad" course in Tabla—an Indian classical musical instrument in 2011.
- Cleared Grade 3 for Violin and Music Theory Courses in 2019.
- Received award for active participation in various team building activities in Bosch Global Software in 2022.
- Organized and participated in events for promoting Blood Donation Camps and supporting "Andhajan Mandal"—blind people's association in 2014.