

Dheenadhayalan R

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EDUCATION

Indian Institute of Information Technology Kottayam, Kerala, India
Bachelors of Technology in Computer Science and Engineering

Aug 2019 - Apr 2023
GPA: 7.50/10.0

EXPERIENCE

UST GLOBAL, THIRUVANANTHAPURAM, KERALA, INDIA
Robotics Intern

May 2021 - July 2021
Thiruvananthapuram, Kerala, India

- Learned Robot Operating System (ROS).
- Studied and implemented the algorithms such as SLAM, AMCL and ROS navigation stack for mapping and navigation in simulated environment.
- Designed and controlled seven degrees of freedom robotic manipulator using MoveIt ROS.

UST GLOBAL, THIRUVANANTHAPURAM, KERALA, INDIA
Robotics Intern

June 2022 - Present
Thiruvananthapuram, Kerala, India

- Learned ROS2 and its architecture.
- Implemented ROS2Nav2 on a custom built mecanum wheel driven Autonomous Mobile Robot (AMR).
- Provided major contribution for the software of the AMR in both simulation and building phase.
- Worked with hardware such as Arduino, ESP32, Raspberry Pi, Jetson, RPLIDAR, Motor Encoders, etc...
- Got introduced to Isaac Sim.

TECHNICAL SKILLS

Programming languages: Python, C, C++, Java
ML/AI: Pytorch, Numpy, Pandas, Matplotlib

Web Technologies: HTML, CSS, JavaScript
Miscellaneous: Git, ROS, ROS2

PROJECTS

Fusion2URDF-ROS2

Internship, UST Global, Thiruvananthapuram

Jun 2022 - Jun 2022
GitHub [↗](#)

- An add-on python script for Fusion360 forked from syuntoku14/fusion2urdf [↗](#)
- Codes are repurposed to convert Fusion360 robot models to ROS2 URDF models

Front-end for "CollegeConnect"

Class Team Assignment, IIIT Kottayam

Aug 2021 - Dec 2021
GitHub [↗](#)

- Social media for an educational institution with relevant functionalities
- Enables different peoples of the institution hierarchy to share information to different groups
- Front-end is developed using ReactJS and MaterialUI

FloatChat

Personal Project

Aug 2021 - Oct 2021
GitHub [↗](#)

- A software interface to BigBlueButton online classroom to make chat-box floating
- Obtains chat from the dynamic HTML of the website using selenium(python)
- Uses tkinter(python) to display GUI

Other Projects

- **Trade bot** : Created various python modules for downloading and preprocessing stock data and tried to predict the actions which are to be taken on intraday trading using Neural Networks which is optimized using a hybrid of Genetic Algorithm and Particle Swarm
- **7-DOF robotic manipulator simulation** [↗](#) : A custom designed robotic manipulator model using ros urdf and freeCAD software controlled using MoveIt ROS planner and simulated in Rviz environment
- **MyByte+** : An attendance management software for students. Done using python (tkinter, pandas)
- **Image plotter** : A machine which plots a given image. This uses python (numpy, pillow: Image preprocessing; PySerial: Communication between machine and computer using serial port) and Arduino programming
- **Audio recorder lite** : A lightweight audio recorder designed using python (tkinter, sounddevice) and Virtual Audio Cable for recording system sounds

ACHIEVEMENTS

CodeChef long challenge

Secured first position at IIIT Kottayam in February long challenge 2020, division 2, 2020 conducted by Code Chef and obtained 100% scholarship on CodeChef DSA certification exam

RELEVANT COURSEWORK

Computer Science: Data Structures and Algorithms, Deep Learning, Machine Learning, Optimization Algorithms, Robot Operating System