Dheenadhayalan R

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EDUCATION

Indian Institute of Information Technology Kottayam, Kerala, India   Aug 2019 - Apr 2023
Bachelors of Technology in Computer Science and Engineering   GPA: 7.50/10.0

EXPERIENCE

UST GLOBAL, THIRUVANANTHAPURAM, KERALA, INDIA   May 2021 - July 2021
Robotics Intern   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   June 2022 - February 2023
Robotics Intern   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 hardwares such as Arduino, ESP32, Raspberry Pi, Jetson, RPLIDAR, Motor Encoders, etc...
- Got introduced to Issac Sim.

RIGHTBOT TECHNOLOGIES, BANGALORE, KARNATAKA, INDIA   February 2023 - August 2023
Robotics Intern   Bangalore, Karnataka, India
- Building software for drive base of Autonomous Mobile Robot with ROS2 framework.

RIGHTBOT TECHNOLOGIES, BANGALORE, KARNATAKA, INDIA   August 2023 - Present
Robotics Software Developer   Bangalore, Karnataka, India
- Proficient in ROS2 framework, specializing in ros2_control and ros2_controllers for robotic system development.
- Experienced in designing and implementing algorithms to address challenges in robotics, with a focus on navigation solutions using ROS2Nav2.
- Skilled in creating and optimizing new software solutions to enhance performance and efficiency in robotic systems.

TECHNICAL SKILLS

Programming languages: Python, C, C++, Java   **Web Technologies:** HTML, CSS, JavaScript
ML/AI: Pytorch, Numpy, Pandas, Matplotlib   **Miscellaneous:** Git, ROS, ROS2

PROJECTS

Fusion2URDF-ROS2   Jun 2022 - Jun 2022
Internship, UST Global, Thiruvananthapuram   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"   Aug 2021 - Dec 2021
Class Team Assignment, IIIT Kottayam   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   Aug 2021 - Oct 2021
Personal Project   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
- **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

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