TAHER KAPADIA

Personal webpage:taherkapadia-94c06f6a0085.herokuapp.com

Thane 400607 | taher.kapadia.2020@gmail.com | +91 9930437953

EDUCATION

Dwarkadas J. Sanghvi College of Engineering, Vile Parle/Mumbai University,India **Graduation: May 2024**

Candidate for Bachelor of Electronics and Telecommunication with *Distinction* (CGPA 8.94/10) ,Relevant Courses: Honors in AIML,

Elective Courses: Neural network and Fuzzy logic, Data Compression and Encryption.

DDM College, Thane, India **Passing: May 2020**

PROFESSIONAL EXPERIENCE

CeX Webuy, Lower Parel, India **July 2021 – January 2022**

IT intern

CeX is a prominent retail and technology company, known for its extensive network of stores where it buys, sells, and exchanges electronic and entertainment products, offering customers a unique and convenient way to access a wide range of technology and entertainment products.

- Interned with CeX as an IT intern, gaining hands-on experience in SQL, software development, and the software development life cycle.
- Initiated web development tasks to enhance the user experience and functionality of internal systems.
- Focused on the DASH application, which is integral for inventory management within the company, where I actively contributed to its development.
- Achieved a remarkable milestone by becoming the youngest intern ever to secure a placement at CeX during my first year.
- Mastered tools like Jira and Kanban boards, streamlining project management and workflow efficiency.
- Enhanced my proficiency in version control using GitHub, ensuring code collaboration and management was seamless.
- Engaged in quality assurance and support tasks, bolstering my understanding of software testing and essential operational functions.

Oriental FabriTech Pvt. Ltd., Rabale, India **July 2022 – November 2023**

Web-dev intern

Oriental is a dynamic and innovative company specializing in the fields of manufacturing process equipment.

- Developed and designed a dynamic website for a fabrication from scratch, enhancing the user interface and optimizing the user experience..
- Implemented both front-end and back-end components, ensuring seamless functionality and integration of essential features for efficient order management.
- Conducted comprehensive security testing to make sure user data is safe and can only be accessed by the required personnel.
- Successfully deployed and maintained the website through multiple iterations, resulting in a live platform that significantly boosted sales and streamlined order management processes for the company.

Techmentry, Andheri, India **June 2023 – August 2023**

Robotics intern

Techmentry is a prominent startup based in USA dedicated to providing comprehensive instruction in coding, robotics, machine learning, and related fields to students, primarily based in the USA and Dubai, fostering a new generation of tech-savvy learners.

- Robotics Intern: Contributed to the development of cutting-edge robotics projects and gained hands-on experience in the field of robotics, further enhancing technical skills and knowledge.
- Designed Two-Part Drone Development Course: Created a comprehensive two-part course on drone development. The first part focused on the electronics aspect of drone design, while the second part covered drone autonomy.
- Course Instruction: Developed and delivered course materials on ROS (Robot Operating System) in detail, Ardupilot, and Aruco marker detection using OpenCV, equipping students with practical skills in robotics and drone technology.
- Played a pivotal role in the prototype development of a drone, contributing to the comprehensive code base development in ROS, fostering hands-on experience in drone construction and programming.

1phi618, Bhandup, India **September 2023 – November 2023**

Machine learning Intern

1phi618 Technology Services Private Limited is an IT services and consulting company specializing in HR technology and SAP solutions primarily based in Switzerland and India.

- Developed expertise in Python programming, utilizing Jupyter Notebooks and VS Code for machine learning projects
- Applied machine learning concepts from Udemy and YouTube tutorials to real-world problems
- Gained experience with natural language processing by building chatbots and virtual assistants for HR tasks
- Used SQL and AWS tools for data storage and processing
- Focused on automating repetitive HR tasks through machine learning techniques like resume screening and candidate matching
- Successfully implemented NLP models for HR chatbots, demonstrating ability to streamline workflows.
- Demonstrated proficiency in leveraging Python and ML to develop AI solutions for improving HR processes and systems

DJS Antariksh, Vile Parle, India **October 2021 – October 2022**

Coding Member

DJS Antariksh is a dynamic college team that actively participates in various rover and space competitions, fostering my passion for space exploration, teamwork, and innovation.

- Developed expertise in ROS (Robot Operating System), enhancing proficiency in robot control and integration with AI algorithms.
- Successfully integrated AI algorithms into robotic systems via ROS, enhancing their functionality.
- Demonstrated adeptness in working with microcontrollers, including Arduino, STM, and Raspberry Pi pico, to control and program robotic platforms.
- Contributed to advanced algorithms for tasks like mapping, odometry, localization, and path planning, improving rover navigation and autonomy.

- Co-authored comprehensive documentation to support competition qualification, ensuring precise records of project details, designs, and achievements.

DJS Antariksh, Vile Parle, India **October 2022 – November 2023**

Coding Head

- Trained the next generation of juniors in ROS and MoveIt while enhancing their proficiency in the field of Robotics.
- Successfully achieved robotic arm autonomy using MoveIt in coordination with various planning and inverse kinematics algorithms.
- Executed autonomous navigation, incorporating a range of sensors such as GPS, IMU, and stereo cameras to achieve 3D navigation.
- Demonstrated expertise in Docker, facilitating coding department operations and website development with various AI algorithms for soil analysis and ArUco markers.
- Engineered a custom GUI for rover control.

DJS Racing, Vile Parle, India **March 2021 – February 2023**

Driverless and Electronics member

DJS Racing is the official formula student racing team of DJ Sanghvi college of engineering.

- Developed expertise in ROS (Robot Operating System), enhancing proficiency in robot control and integration with AI algorithms.
- Worked with various harnessing techniques on a formula student car.
- Collaborated on harnessing the car and played a key role in optimizing the vehicle's performance.
- Successfully managed high-voltage segments powering the Electric Vehicle (EV), ensuring safety and efficiency.
- Contributed to the development and enhancement of the Battery Management System (BMS) for improved vehicle performance and reliability.
- Demonstrated adeptness in working with microcontrollers, including Arduino, STM, and Raspberry Pi, to control and program robotic platforms.
- Contributed to advanced algorithms for tasks like mapping, odometry, localization, and path planning, improving car navigation and autonomy using LiDAR.

ACADEMIC PROJECTS AND PAPERS

Robotic Arm

- Engineered a 3D-printed robotic arm with six degrees of freedom (6-DOF), implementing autonomous arm actuation through MoveIt, OpenCV, and ROS, significantly enhancing the project's functionality and demonstrating expertise in robotic system integration.
- Technologies used: ROS, MoveIt, Arduino, CPP, Python3, 3-d Printing, OpenCV, Ansys, Fusion360.
- Took first place in Spark a national level competition.

3-wheeled car

- Designed and built a 3-wheeled autonomous car equipped with 2D navigation techniques utilizing encoders and LiDAR sensors, enabling precise localization and path planning, and demonstrating proficiency in autonomous vehicle technology and sensor integration.
- Technologies used: ROS, Arduino, CPP, Python3, 3-d Printing.

Prototype Martian rover

- Played a key role in developing and programming the prototype Martian rover to enable precise drivability through a user-friendly GUI interface,facilitated development of AI algorithm for soil analysis utilizing MoveIt for robotic arm control, and ROS Noetic for autonomous 3D navigation via stereo cameras. Additionally, addressed localization challenges by refining AR tags, odometry via ZED2 IMU and motor encoders, and using path planning algorithms such as A* and Dijkstra within MoveBase. Implemented improvements to Kalman filters for enhanced localization accuracy.
- Utilized a diverse range of technologies, including ROS, MoveIt, Arduino, C++, Python 3, 3D Printing, OpenCV, YoloV8 and YoloV5.
- Contributed significantly to the project, culminating in its recognition in 2 international-level competition.

Published Paper Name

- Implemented a Robotic Manipulator (DJ Spark 2023 ISBN: 978-93-5777-300-3) with precision stepper motors, 3D-printed components, custom PCBs, Teensy 3.5, and MoveIt integration, enabling intuitive control via joystick for a 6-DOF robotic arm.
- Developed an Automatic Number Plate Recognition system (DJ Strike 2022 ISBN: 978-93-5578-944-0) using advanced neural networks, image segmentation, and OCR technology to extract license plate information from vehicle images, streamlining vehicle identification and tracking.

TECHNICAL SKILLS

- HTML, CSS, NodeJS, ReactJS, MongoDB, SQL.
- Microprocessors, Microcontrollers, Linux, ROS, MoveIt, Docker.
- Programming languages like C, C++, Python, Javascript, Java, Bash.
- Software like Arduino, Fusion360 and Matlab

EXTRA CURRICULAR ACTIVITIES

- 5 international competition as a part of team DJS Antariksh - ERC 2022 - remote (1st position), IRDC 2022(3rd position), IRC 2022(8th position), ERC 2023 - onsite (10th position), ERC 2023 - remote (2nd position).
- 1 national level competition as a part of team DJS Racing (Formula Bharat - 5th position)
- Won first place in a national level Spark competition.
- Volunteered at Faiz-al-Mawaid-al-Burhaniyah (Thane), a tiffin service. Through my efforts, I strived to ensure that underprivileged families do not go to bed hungry it is financially supported by the Dawoodi Bohra community in Thane.
- Donated blood during an NSS blood donation drive as well as contributed to its organization.
- Mentoring participants in IoT for GDSCE Hackniche hackathon, showcasing technical expertise in robotics during the third year of study.
- Acquired multiple certification courses from Udemy and Coursera pertaining to the fields of AI,Robotics Cybersecurity and basic coding. (Certificates drive link: https://drive.google.com/drive/folders/1effGpHftlV-BNUY7ngDIqhxOcuf4kKDu?usp=sharing)