DEV MANEK

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King's College London, London, United Kingdom **September 2024**

Candidate for Master in Robotics

SVKM's Dwarkadas J. Sanghvi College of Engineering, Vile Parle, India **June 2023**

Candidate for Bachelor of Technology in Electronics with *Distinction* (CGPA 8.4/10)

PROFESSIONAL EXPERIENCE

Big Vision LLC, Bangalore, India **April 2022– September 2022**

Computer Vision Engineer and Technical writer

- Developed computer vision projects centred around human movement tracking using Mediapipe.
- Designed and implemented gesture-based controls for video calls, integrating precise movement tracking.
- Authored SEO-optimized blog posts highlighting these projects, leading to a remarkable 25% increase in website traffic.

Open Robotics, Remote **May 2022– October 2022**

Technical writer (Google Season of Documentation)

- Rectified the Open-RMF installation documentation and resolved GitHub CI issues related to documentation.
- Published comprehensive documentation for the RMF fleet adapter, complete with Python and C++ tutorials for easy comprehension.
- Seamlessly integrated GitHub-based Q&A into the Open-RMF website for enhanced user support.

MeshNet Electronics, Mumbai **May 2022– May 2023**

Embedded System Engineer

- Developing MISRA C compliant firmware with OTA, Modbus, BACnet and MQTT support for ESP32-based gateway using ESP-IDF.
- Incorporating, testing, and optimizing a software stack for Wi-Fi mesh-based network for intrusion detection using ESP based ADC sensor unit.

ACADEMIC PROJECTS AND PAPERS

Auto Adjusting lens for presbyopic eyes (Research Paper) **August 2020-June 2021**

- Conducted in-depth research on eye tracking mechanisms and omni focal lenses to develop auto-adjusting spectacles tailored for individuals with presbyopia.
- Successfully implemented an eye tracking algorithm on a Raspberry Pi 4 and seamlessly integrated a cost-effective lens focal length adjustment system within project budget constraints.

Semi-Autonomous Robots, ABU Robocon **October 2020-June 2021**

- Established a robust interface between a Raspberry Pi 4 and an Object Detection Application, enabling a semi-autonomous robot to self-align with objects in its environment. Developed arrow tracking mechanism using TensorFlow.
- Enhanced the synergy between electronic and mechanical components of the robot by integrating an Arduino Due controlled via a PS3 controller. seamless connection between Electronics and Mechanical Components of the bot using Arduino Due controlled using a PS3 controller.
- Diligently managed project expenses and curated a comprehensive item list to maintain project records.

F1Tenth Autonomous Racing Car **May 2022-Present**

- Developing and deploying algorithms for an autonomous F1Tenth vehicle using ROS2 to compete in ICRA 2023.
- Testing and integrating SICK TIM571 with Jetson Xavier.

TECHNICAL SKILLS

- Programming Languages: C, C++, JavaScript, Java, Python.
- Libraries and Tools: ROS2, Gazebo, TensorFlow, OpenCV, CMake, Doxygen, Bash, Git, GitHub, Docker, ESP-IDF.
- Software: LTSPICE, KICAD, OrCAD, Proteus, Easy EDA, MATLAB, SCILAB, Tableau, SolidWorks, Fusion 360.
- Hardware: Raspberry Pi, Arduino, ESP32, STM32, Nvidia Jetson Nano and Xavier.
- Microsoft Office Tools: - MS Word, MS Excel, MS PowerPoint.

EXTRACURRICULAR ACTIVITIES

- Orchestrated 35-member team, organized student events, managed inter-chapter communication, secured sponsorships, and oversaw social media presence as IEEE Student Chapter Chairperson.
- Conducted interviews with industry professionals, delivering insights to students through the podcast "That Side Over There".
- Commenced freelancing on Fiverr, boasting a stellar 5-star rating and collaborating with more than 20 satisfied clients.