Thamizharasan Mohankumar

+91 80725 43250 thamizharasanm2004@gmail.com LinkedIn GitHub

Education

Vellore Institute of Technology, Chennai — Expected July 2025
B.Tech in Computer Science Engineering with specialization in AI and Robotics — *Chennai, Tamil Nadu*

Indian Institute of Technology, Chennai — Expected September 2026
Bachelor of Science in Data Science and Applications — *Chennai, Tamil Nadu*

Experience

L.G.Balakrishnan & Bros. Ltd — August 2023 – November 2023
AI ML Intern — *Coimbatore, Tamil Nadu*

- Implemented computer vision model to automate submersion testing of products using OpenCV, resulting in reduction of human intervention during the testing process and an increase in testing capabilities.
- Developed a Deep Learning model using Tensorflow, OpenCV to automate the assembly process of gears, resulting in reduction of existing human based errors during the assembly process.
- Integrated the Deep Learning model with Siemens PLC for deployment and utilized PostgreSQL for seamless remote monitoring of the system.
- Kick-started the organization's in-house Machine Vision Technology development, achieving cost savings of up to 30-40% and establishing future technological self-reliance in Machine Vision.

Projects

RoboVision: AI-driven Object Recognition and Interaction | *Python, Tensorflow, OpenCV, LLM, NLP, Face recognition*

- Visual frames are analyzed for object detection using the YOLOv8 model, complemented by face recognition for detecting known faces to interact followed by integration of Gemini for interaction.
- Upon detecting a target object specific robotic tasks were done in the simulation as a prototype.

Robotic manipulator using ROS | *Python, Arduino, Rospy, Pyfirmata*

- Designed and implemented a system for real-time translation of user inputs into robotic arm movements with sub-millisecond latency .
- Integrated robotic systems using ROS (Robot Operating System), enabling efficient communication and coordination between various robotic components and sensors.

CodeRefractor-AI | *Python, OpenCV, LLM, Pytesseract, HTML, CSS, Flask*

- Preprocessed input image using OpenCV, utilized pytesseract to extract code from preprocessed image, enabling users to input handwritten or scanned code. This process ensures accurate and quick extraction for further refactoring.
- Leveraged Gemini LLM to refactor and optimize code, improving readability and performance. Automated the refactoring process to ensure consistency and reduce manual efforts.
- Developed a Flask-based UI that integrates real-time code extraction and refactoring, providing users with an interactive platform to enhance and optimize code efficiently.

Technical Skills

Languages: Python, C++, Matlab, R.
Technologies & Tools: TensorFlow, OpenCV, Git, ROS, Scikit-Learn, numpy, pandas, Keras, Snap7, Arduino Programming, HTML, CSS, tkinter, Pytesseract, MySQL, PostgreSQL, 8D.
Domains: Data Structures and Algorithms, Design and Analysis of Algorithms, Machine Learning, Neural Networks, Computer Vision, Natural Language Processing, Deep Learning, Statistics, LLM, Generative AI, DBMS, Software Engineering, Robot Programming (ROS), IoT.