

Venkatesan M

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EDUCATION

Vellore Institute of Technology

B.Tech in Computer Science and Engineering

Specialization in Artificial Intelligence and Machine Learning

CGPA: 8.83

Chennai, TN

2022 – 2026

SKILLS SUMMARY

Programming Languages: Python, JavaScript, C/C++, Java, Dart

Frontend Technologies: ReactJS, ThreeJS, MUI, Tailwind, Flutter, Figma

Backend/DevOps: NodeJS, ExpressJS, MongoDB, PostgreSQL, Firebase, AWS, Docker, Kubernetes

Other Tools/Technologies: ROS, Git, Postman, Linux, Arduino, Blender

WORK EXPERIENCE

KAL-M Robotics and Innovations

Robotics Intern

Chennai, TN

June 2024 – July 2024

- Developed a Robotics STEM Kit, achieving autonomous racing on Nvidia Jetson by implementing neural networks
- Managed version control, debugging, and containerized ROS systems for the Autonomous Ground Vehicle

PROJECTS

Quadruped Robot Dog - Alpha

Python, ROS2, OpenCV, SLAM

2nd Prize at Autodesk Instructables Robot contest

- Led development of Quadruped Robot Alpha, achieving MVP in one month with a \$200 budget, implementing 12 DoF biomimetic movement and inverse kinematics with IMU Sensor
- Revamped systems into ROS, cloud robotics (AWS), and implemented algorithms for autonomous navigation (SLAM) and AI detection

WeMace: Women Empowering Markets & Connecting Enterprises

Flutter, Firebase

Google Solution Challenge 2024 & Finalist, IEEE yesist12 2024

- Led a team of 5 to address 7/17 of the UN Sustainable Goals, conducted surveys with 500+ Self Help Group members for feedback, and tested to develop a cross-platform app using Flutter and Firebase, integrated Google Gemini Vision Pro for AI chat

Deep Learning for Medical Image Segmentation

Tensorflow, Keras, Numpy, Pandas

Collaboration with Nagasaki University, Japan

- Enhanced Stanfordaiml BrainMetShare dataset, increasing usability from 2.5 to 5 Kaggle score, and implemented a modified U-Net for improved image segmentation
- Defined loss functions and optimized model performance, improving deep learning methods for accurate brain metastasis detection

NutShell

ReactJS, MUI, Flask, Azure

Finalist, Karnataka State Police Datathon 2024

- Selected as Top 3 among 14,000+ Teams for Karnataka State Police to predict and analyse accidents. Developed a React Application with the "PAAR" Concept: Predict, Alert, Analyze, and Report
- Implemented a Dashboard with Random Forest Classifier Model with 80% accuracy to analyse accidents and generate PowerBI Reports summarised by Google Gemini Pro AI. Trained a lightweight Yolo Model for accident detection and deployed Restful API on Azure using Flask

CERTIFICATIONS

Machine Learning Specialization, Coursera

Dr. Andrew NG (Jun 2024)

The Complete 2024 Web Development Bootcamp, Udemy

Dr. Angela Yu (Apr 2024)