

Krithik Vishal J

Software Engineer

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EXECUTIVE SUMMARY

AI Research & Software Enthusiast with strong foundations in algorithms, system design, and real-time applications across computer vision and biomedical domains. Passionate about building end-to-end machine learning systems and applying deep learning to solve impactful, real-world problems.

TECHNICAL EXPERIENCE

AI & ML Intern, Team Lead | Internpro | 6 weeks

June 2025 - August 2025

- Led a team to develop a Facial Emotion Recognition App using CNN models.
- Trained various architectures including a Quantum CNN (QCNN), CNN, ResNet, EfficientNet, MobileNet, InceptionNet, DenseNet, VGG and ViT
- Deployed model to Android using TensorFlow Lite with Grad-CAM support.

AI Research Intern | planto.ai | 6 months

June 2025 - Present

- Participated in a structured internship program focused on AI/ML workflows, model deployment, and production inference systems.
- Attended webinars and learning sessions on Hugging Face APIs, scalable model switching, and real-world AI product architecture.
- Explored tools and concepts used in production AI, including API-based inference, MLOps pipelines, and model evaluation strategies.

EDUCATION

Aug 2023 - Present

MTech(Integrated) | Software Engineering

Vellore Institute Of Technology

- Graduation: 07/2028
- **Course:** Integrated M Tech in Software Engineering
- **Clubs:** Programming member of our college Coding and AI Robotics

Club HumanoidX

SKILLS

- **Languages:** Python, C/C++, Java, JavaScript, SQL, MATLAB
- **Libraries & Frameworks:** TensorFlow, PyTorch, Keras, scikit-learn, OpenCV
- **Tools & Platforms:** Git, Docker, Firebase, Android Studio, Unity, Google ADK
- **ML Focus Areas:** CNNs, Transformers, Quantum ML, GNNs, Model Deployment
- **Web Stack:** React, Node.js, Django, Flask, PostgreSQL, Firebase

ACHIEVEMENTS

- **4th Place** – HACKNIGHT (AI-Powered Healthcare Platform)
- **Finalist** – BIS MEDIHACK V1.0 (Skin disease classifier with HAM10000)
- **Finalist** – Algo Connect (Smart Marker System)

LANGUAGES

- Tamil (Native)
- English
- German (Elementary)

PROJECTS

Facial Emotion Recognition System

Tech Stack: Python, PyTorch, TensorFlow, TensorFlow Lite, OpenCV, PennyLane, Flask

- Built an 8-class facial emotion recognition system using CNN, ResNet, EfficientNet, MobileNet, InceptionNet, DenseNet, VGG, ViT, and Quantum CNN (QCNN).
- Integrated face alignment, Grad-CAM, and top-N predictions with a web interface.

SpaceX Launch Risk AI System

Tech Stack: Python, OpenWeatherMap API, Google ADK, SpaceX Launch API

- Developed a multi-agent AI system to assess potential launch delays for SpaceX based on real-time weather data.
- Integrated OpenWeatherMap and SpaceX APIs to evaluate weather-driven risk using ADK agents.

AI-Powered Healthcare Platform

Tech Stack: Python, TensorFlow, TensorFlow Lite, Android Studio, Firebase, HAM10000 Dataset

- Trained an EfficientNet-B0 model on HAM10000 for 7-class skin disease detection.
- Built mobile and web apps for prediction, symptom check, and doctor interaction with on-device inference.

Smart Marker System

Tech Stack: Arduino, C/C++, IMU Sensors, Pressure Sensor, Serial Communication

- Designed a pressure + IMU sensor-based whiteboard marker for digital writing capture.
- Enabled RGB color switching and real-time data streaming to a laptop.

Virtual Chemistry Lab (VR)

Tech Stack: Unity, C#, VR Toolkit

- Created an open-world virtual lab for performing chemistry experiments interactively.
- Enabled VR-based exploration and simulation of chemical reactions.

Driving Event Detection System

Tech Stack: Python, YOLOv12X, OpenCV

- Built an AI model to detect critical driving scenarios for safety validation.
- Used YOLOv12X with OpenCV for object detection in autonomous driving footage.

RESEARCH & EXPLORATORY PROJECTS (ONGOING)

AI-Driven Drug Discovery Using Graph Neural Networks (GNNs)

Tech Stack: Python, PyTorch Geometric, RDKit, DeepChem

- Constructed molecular graphs using RDKit and trained GNNs to predict protein-ligand binding affinity.
- Focused on improving accuracy in early-stage virtual screening for drug discovery pipelines.

SpaceX Launch Risk AI System

Tech Stack: GANs, Diffusion Models, Reinforcement Learning, Unity

- Designing an interactive climate simulation sandbox using GANs and RL agents.
- Built Phase 1 data pipeline to train a conditional GAN for generating weather events like storms and cloud systems.

TECHNICAL INTERESTS

- Artificial Intelligence & Machine Learning
- Quantum Machine Learning
- Computer Vision
- HealthTech AI Systems
- Graph Neural Networks
- Model Optimization & Deployment
- Full Stack Development
- Reinforcement Learning