

AKASH MANOJ

Chennai, Tamil Nadu • +91 81299 66028 • me@psyp.dev • www.psyp.dev

Software Engineer | Full Stack Developer | Ai & ML | Robotics & Systems

Computer Engineering student and Full-Stack Engineer with experience across **software development, AI-driven solutions, automation, and embedded systems**. Proven ability to **design, build, and optimize scalable, end-to-end software systems**, including backend services, APIs, and full-stack applications, with experience integrating software services with hardware platforms when required. Strong foundation in **data structures, algorithms, system architecture, and applied engineering**, with hands-on experience delivering **production-ready, reliable, and lab-validated solutions**.

WORK EXPERIENCE

Cabot Solutions Inc.

05/2024 - 07/2024

Machine Learning Intern

- Assisted in **training, testing, and evaluating multiple machine learning models**, experimenting with 15+ **algorithms** across supervised and unsupervised learning tasks.
- Conducted **performance analysis and tuning**, improving model accuracy and reliability by **10–15%** through iterative experimentation and validation.
- Supported **data preprocessing and feature analysis** on datasets ranging from **thousands to tens of thousands of records**, aligned with production use cases.

Leapflow.tech • Remote

11/2024 - 05/2025

Founding AI Engineer • Part-time

- Designed and implemented **agent-based AI workflows** integrating **12+ business platforms** into a unified automation system using API-driven tool-based interactions with a crew of agents.
- Built a **modular multi-agent architecture**, enabling agents to retrieve, process, and coordinate data across services, supporting **dozens of automated workflows** from natural-language requests.
- Developed **end-to-end automation pipelines** that reduced manual task handling by **~40–50%** in internal testing, with a focus on scalability, reliability, and cost-aware design.

Event Managers Club • VIT Chennai

03/2024 - 10/2025

Marketing Lead | Sponsorship Lead • Full-time

- Led **marketing and sponsorship initiatives** for large-scale events, contributing to **1000+ attendee turnout** across multiple programs.
- Planned and executed **digital and offline campaigns**, increasing event reach and engagement by **3×** compared to previous editions, bringing the Instagram followers up to 5000+.
- Coordinated teams and external partners to deliver **multiple successful events**, securing **sponsorship partnerships** and ensuring smooth execution.

EDUCATION

Bachelor of Technology in Computer Science (Specialization: Artificial Intelligence and Robotics)

Vellore Institute of Technology • Chennai

08/2023 - 08/2027

PROJECTS

RYO - AI Powered Forms

React • Node.js • LLM • FAISS/Vector Search

- Built a **prompt-to-form generation system** where LLM-produced structured outputs are parsed to dynamically generate React-based, shareable forms.
- Implemented **AI-assisted response analysis** using semantic retrieval and contextual querying, enabling intelligent filtering and secure, owner-only access to insights.

NYAYA — AI for Law

Fine-tuned LLM • RAG • Vector DB • Python

- Developed an **AI-driven legal research engine** using fine-tuned LLMs and machine learning models to retrieve relevant case precedents and assist judicial decision workflows.
- Implemented **retrieval and contextual reasoning pipelines (RAG)** to generate structured summaries and recommendations based on historical legal data.

Drone Control with Gestures

MediaPipe • TensorFlow/PyTorch • MAVLink • Pixhawk

- Built an end-to-end **computer vision–driven control system** mapping hand gestures to drone flight commands (lift, pitch, roll, yaw, land) with real-time wireless transmission.
- Integrated gesture recognition with an onboard flight controller (Pixhawk/MAVLink), ensuring **low-latency, stable, and safe control workflows**.

Gesture Control for Your System

MediaPipe • OpenCV • TensorFlow • Python

- Developed a real-time **ML-powered gesture control application** using MediaPipe and OpenCV to translate hand landmarks into configurable system-level commands and shortcuts.
- Designed a **scalable gesture-to-action mapping layer**, enabling extensible automation with low-latency inference and cross-platform integration.

SKILLS

Programming & Software Development

- Backend Development
- Data Structures & Algorithms
- Java | Python | C# | Typescript
- Object-Oriented Programming
- REST APIs
- System Design

Web & Full-Stack Development

- Express | Node
- Frameworks - React | Angular | Vue
- Frontend–Backend Integration
- Node.js

AI / Machine Learning

- Deep Learning
- Fine-Tuning
- Large Language Models (LLMs)
- Machine Learning
- Model Training & Evaluation
- Retrieval-Augmented Generation (RAG)

Data & Infrastructure

- AWS | GCP | Azure
- Data Processing Pipelines
- SQL | NoSQL Databases
- Vector Databases

Computer Vision & Automation

- Automation Pipelines
- Computer Vision
- Gesture Recognition
- MediaPipe
- OpenCV
- Real-Time Inference

Tools & Practices

- Agile Development
- Debugging
- Git | Version Control
- Team Coordination