

# RANUSHA RAMESH



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Chennai, Tamil Nadu, India.

As an undergraduate passionate about web development and AI, I bring expertise in Python, JavaScript, React, Flask, SQL, and MongoDB, along with hands-on experience in model training, CNNs, LSTMs, and frameworks like PyTorch, TensorFlow, and OpenCV. I'm also expanding my skills in UI/UX design and database optimization to create seamless, user-centric solutions. Eager to grow and collaborate, I aim to contribute to impactful projects that blend technology, design, and innovation.

## STRENGTHS AND EXPERTISE

Artificial Intelligence

Deep Learning

Leadership

Data Management

Ui/Ux Design

Communication

Machine Learning

Full Stack Development

Technical Proficiency & Adaptability

## PROFESSIONAL EXPERIENCE

**Meras Plugins Pvt Ltd | IITM Research Park**

Jul 2025 - Present

AI & ML Intern

**MIT SQUARE - Intern**

Oct 2024-Present

Role -TL & AI Solutions Architect

Developed PathGuide, an AI-driven traffic system using YOLOv11 for real-time detection and dynamic traffic optimization.

**GDC AI Workforce | Pupilfirst**

Feb 2025-May 2025

Role -Full Stack Aspirant

Training in full-stack web development, focusing on React.js, Node.js, and Digital Public Goods projects.

**Algo University Scholar**

Aug 2024-June 2025

Top 13% in Algo University Technology Fellowship

Accelerator Camp Scholar

**Hackathon Finalist at VIT Chennai 2025**

April 2025

Role : TL & ML

Designed an EMG sensor-based hand gesture recognition system for intuitive, real-time cursor control and screen navigation, advancing non-invasive human-computer interaction.

**Hackathon at BITS Hyderabad 2025**

March 2025

Role : TL & Backend Developer

Designed GatherUp, an all-in-one event management system. Features include event creation, scheduling, RSVP tracking, real-time updates, user authentication, and admin control panel.

**HackWithIndia BuildWithIndia Finalist**

March 2025

Role : TL & Web Developer

Secured top 20% rank at India's premier hackathon, earning a finals spot at Google Office by showcasing collaborative problem-solving and full-stack development.

**CYBERJAYA UNI - MALAYSIA**

Oct 2024-Nov 2024

Role -TL & AI Research Scholar

## CLUBS & ORGANIZATIONS

**XR Team**

Feb 2025-Present

Role - Management Team Member

**CS CLUB SIST**

Feb 2025-Present

Role - Core Team Member

**Catalyst CLUB SIST**

Feb 2025-Present

Role - Technical Team Co-Lead

**Youth United Council of India**

June 2023-Jan 2024

Role - State committee Co-ordinator

## EDUCATION

**Sathyabama Institute Of Science And Technology**

**2023- Present**

BE CSE WITH AI

CGPA: 8.64 till IVth Semester

**St.Alphonsa Matric Higher Sec School**

**2016-2023**

Computer Science & Mathematics

HSE : 89%

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## PUBLICATIONS AND CERTIFICATIONS

TrafficIQ - AI Solution for Urban Mobility : PathGuide

AlgoUniversity ATF Scholar Stage 2

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## TECH IMPLEMENTATIONS

**EEG-Based Intent Prediction System**

**July 2025-Present**

**Tech Stack:** EEG sensors, Python, Machine Learning, Arduino, IoT, Web Dev

Developing a system that can predict which side a person is likely to turn or choose from—left or right—by reading and interpreting brain signals. Using a wearable EEG device, the system detects subtle patterns in brain activity linked to decision-making. These signals are processed to identify when a person is preparing to look or reach toward something on one side. The goal was to enable hands-free control in real-time, which could support applications like assistive devices for people with mobility impairments, interactive environments, or mind-controlled interfaces. Focused on making the system lightweight, user-friendly, and able to learn from each user's brain patterns over time for improved accuracy.

**Whatsapp Chat Summarizer**

**June 2025**

**Tech Stack:** Python (Streamlit, pandas), Google Gemini API, SQLite, Regex

Built an AI tool to help law enforcement quickly understand WhatsApp chats. The system reads exported chat files, identifies who said what and when, and turns messy conversations into clear summaries, to-do items, and important highlights. Created an easy-to-use web interface to upload chats and instantly view results. Past analyses are saved and can be downloaded for reports. Designed to save time, reduce manual work, and make it easier to find key details in long conversations.

**EMG Signal-Driven Control System**

**Apr 2025-July 2025**

**Tech Stack:** Python (TensorFlow,LSTM), EMG sensors , Flask, Database,IoT,3D Printing

Created an AI-powered system that interprets muscle signals to control devices hands-free. By capturing electrical activity from arm muscles, the system learns to recognize specific hand gestures (like fist clench or finger taps) with high accuracy. Connected wireless sensors to a user-friendly web interface, enabling real-time control of prosthetics or digital tools. Designed a comfortable wearable sleeve for consistent signal detection and implemented automatic learning from user data to improve gesture recognition over time.

**EEG Emotion Detection System**

**Jan 2025-March 2025**

**Tech Stack:** Python (TensorFlow,LSTM), EEG, Flask, Database,IoT,3D Printing

Built a brain-computer interface (BCI) system that reads brain signals to detect a person's emotional state, like stress, focus, or calmness. Captured and cleaned raw brainwave data using a wearable EEG device. Trained the system to recognize patterns in the signals linked to specific emotions. Designed it to work in real time, so users could get instant feedback or trigger actions based on how they feel. Created a web interface where users can see their emotional state live, while securely saving data to help the system learn and improve over time.

## TECH IMPLEMENTATIONS

### GatherUp

Oct 2024

**Tech Stack:** React.js, Tailwind CSS, JavaScript

Developed a responsive canteen management platform with dynamic menu browsing, cart functionality, and order placement. Implemented real-time cart updates and product management (add/remove menu items) using React hooks. Designed an intuitive UI with consistent styling through Tailwind CSS and ensured cross-device compatibility.

### PathGuide

Oct 2024-Jan 2025

**Tech Stack:** Python (YOLOv11), OpenCV, Flask, MySQL, IoT

Developed an AI-driven traffic management system, PathGuide, using Python (YOLOv11) for vehicle detection, OpenCV for image processing, and Flask for web deployment. Integrated real-time traffic data, implemented efficient database management using MySQL, and deployed the system for operational use. Ensured smooth communication between AI model, frontend, and backend for real-time monitoring and analysis.

### Qr Code Generator & Attendance Scanner

July 2024

**Tech Stack:** Python, Flask, JavaScript, Excel, qrcode, OpenCV, Pandas, ngrok (deployment)

Used Python and Flask to create a system for a workshop, including QR code generation, email distribution, and attendance logging. Deployed with ngrok. Managed Data Efficiently: Handled participant data and attendance logs in Excel. Created a Flask website to scan QR codes and store data. Future Development: Planning to develop a React app for the same

### GeneProtect

March 2024

**Tech Stack:** Python(Flask), HTML, Tailwind CSS, MySQL

Developed a web app using Python (Flask), HTML, and MySQL, managed via PHPMyAdmin. Implemented CRUD operations, securely stored encrypted user data, and managed database interactions efficiently. Deployed on a hosting platform for 3 months, ensuring smooth and secure interaction between frontend, backend, and database for real-time access