

# 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

### GDC AI Workforce | Pupilfirst

Feb 2025-Present

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-Present

Top 13% in Algo University Technology Fellowship

Accelerator Camp Scholar

### 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.

### IFERP Member

Feb 2025 - Present

Professional IFERP Member

### 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 Member

### 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: 8.62 till III-rd 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

### EMG Signal-Driven Control System

**Apr 2025-Present**

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

Creating 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.

### NeuroRhythm

**Jan 2025-Present**

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

Developing a BCI system to translate EEG brain signals into text or actions using Python. Processed raw EEG data by filtering noise, normalizing, and extracting features like power spectral density. Building an LSTM (Long Short-Term Memory) model with TensorFlow to analyze sequential brainwave patterns and map them to specific outputs. Integrated real-time EEG analysis to decode brain signals into meaningful actions or text. Used Flask to deploy the system as a web application, enabling seamless interaction between the frontend, backend, and real-time data processing. To store user data securely in a database for future model improvements.

### 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.

## TECH IMPLEMENTATIONS

### 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