

# Mayukh Saha

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## EDUCATION

### Manipal Institute of Technology — CGPA: 8.06

Bachelor of Technology in Computer Science, Specialization in Artificial Intelligence

Bengaluru, KA

Jul. 2022 – Jul 2026

## PROJECTS

### AI based education platform | Streamlit, Google Gemini, Flask, OpenCV

HackNite 2025

- Provides personalized learning experiences through dynamic content generation, interactive quizzes, and learning paths.
- Uses **OpenCV** and **DeepFace** for facial recognition and eyetracking.
- Uses **Google Gemini 2.0 Flash LLM** to auto-generate personalized content.
- Deployed using **Streamlit** on **Google Cloud Platform**.

### Cravings | Qdrantdb, Google Gemini, FastEmbed, FastAPI, cURL — [Github](#)

June 2025

- Cravings is a lightweight RAG (Retrieval-Augmented Generation) + LLM chatbot that suggests recipes based on how you're feeling.
- Uses **Qdrantdb** and **FastEmbed** for vector database storage and text embedding.
- Recipes generated using **Google Gemini 2.0 Flash LLM model**
- Connect using **FastAPI** and hosted on **Google cloud platform**.

### Mini-url | Golang, PostgreSQL, React, Docker, Heroku – [GitHub](#)

Apr 2025

- URL rerouter that can handle 5,000–15,000 requests/sec.
- Deployed via **Docker** on **Heroku**; horizontally scalable with **Redis**.

### Lumina (Ray Tracer) | CMake, C++, Git – [GitHub](#)

Sept 2024 – Oct 2024

- Object-Oriented implementation of a ray tracing graphics engine in C++.
- Simulates cameras, diffusion, defocus blur, reflection and refraction with multi-bounce light simulation and textured surfaces.

### Az-rmbg | Python, Flask, Docker, Azure App Services [GitHub](#), [Demo](#)

Aug 2024

- Removes backgrounds from images using **U2-Net** based rmbg segmentation.
- Built with **Flask**, deployed with **Docker** on **Azure App Services**.
- Supports drag-and-drop; 2x less memory than **Meta's SAM-b**.

## POSITIONS OF RESPONSIBILITY

### Competitive Coding Lead

Nov 2022 – Dec 2023

*Codex Coding Club*

*MIT, Bengaluru*

- Led competitive programming department of Codex, MIT's largest tech club.
- Organized contests, created problems, handled technical logistics.

### Design Lead

Oct 2022 – Oct 2023

*Neura AI Club*

*MIT, Bengaluru*

- Designed branding and visuals for the club including industry conclave event.
- Collaborated with industry speakers and managed all creative assets.

## TECHNICAL SKILLS

**Languages:** Python, C/C++, Go, JavaScript, Bash, SQL

**Frameworks:** Sveltekit, FastAPI, Express.js, Flask, Node.js, React.js

**Developer Tools:** Git, GitHub, Docker, Kubernetes, Azure, VS Code, PostgreSQL, redis

**Libraries:** TensorFlow, OpenCV, SciKit Learn, Gin

## CERTIFICATIONS AND ACHIEVEMENTS

**HackNite 2025 by ACM MIT Bengaluru:** 16th out of 100+ participants

**DeepLearning.AI:** AI for Medicine, TensorFlow Developer, Mathematics for Machine Learning and Data Science

**LearnQuest:** Oracle SQL Databases