Krishna Singh

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Address : 545 Ka E 312 Prabhat Puram Alamnagar Lucknow

SOFTWARE DEVELOPER AND AI INTEGRATION SPECIALIST

Engineering student specializing in **Full-Stack Web** and **Mobile Development** with expertise in the **MERN Stack** and **React Native**. Focused on integrating **AI functionalities** into applications using SDKs such as **Ollama**, **Gemini**, and **OpenAI**. Skilled in building scalable web platforms, mobile applications, and backend systems, with additional experience in **Cloud Deployment (AWS)**, **Containerization (Docker)**, and a**utomation workflows (N8N)**.

SKILLS

- **MERN Stack** - Mongo DB, Express JS, React, Node JS.
- **AI Integration** - OpenAI, Gemini and Ollama SDKs.
- **Tools** - Postman, Github, Canva, Figma, MS Office.
- **Languages** - Python, JavaScript, TypeSctipt , C, Kotlin.
- **AWS Deployment** - EC2, Lamda, S3 and IAM Services.
- **Mobile Development** - React Native and Expo.
- **Technologies** - Git, FastAPI, Streamlit, Tailwind CSS.
- **Others** - Docker, N8N Automations and REST APIs

PROJECTS

Academic Notes   **2024 - 2025**

Full Stack Multimodal A.I. Notes Generator And Analyser

Engineered **Academic Notes**, a **Full-Stack AI learning platform** using the **Google Gemini API**. Architected a **Monolithic Backend** with **Node.js** and **Express**, integrating **Multer** for robust **Multi-format files** processing of PDFs, Audio and Images. Delivered a dynamic learning experience by developing a suite of interactive tools, including a **AI Chat Assistant** and **Automated Quiz Generator.**

Accomplishments :

- Developed a Multi-Format AI Engine on a **Node.js/Express backend**, utilizing **Multer** for robust handling of diverse file uploads (PDFs, audio, images) and leveraging the **Google Gemini API** to analyze, convert, and query the content.
- Implemented a **Context-Aware AI** chat interface using **React**, enabling dynamic, real-time Q&A sessions with processed documents by leveraging the Google Gemini API's advanced conversational capabilities.
- Designed an **Automated Quiz System** with a React frontend, where the **Node.js** backend uses the **Gemini API** to generate interactive assessments (**MCQs**, **Flashcards**) from source material, featuring adaptive difficulty and live result tracking.
- Integrated **Subject-Specific Intelligence** by architecting the Node.js backend to dynamically construct detailed prompts for the Gemini API, incorporating **User-Defined Syllabi** and **Writing Styles** for highly tailored academic content generation.
- Enabled seamless **Audio Processing** by leveraging the Google Gemini API's multimodal capabilities for highly accurate speech-to-text transcription notes from user-uploaded MP3 files.

Ecosync Nexus   **Sustainovation 2025 Hackathon**

Full Stack Smart Home Management System with IOT   **(30-Hour Challenge)**

Completed the end-to-end development of **EcoSync Nexus**, a smart home ecosystem, during the **30-hour Sustainovation 2025 hackathon**. Engineered a secure **Node.js/Express backend**, built a cross-platform mobile application from scratch using **React Native**, and developed the firmware in C++ for ESP32. Designed and implemented a comprehensive feature set including **Real-Time Energy Monitoring**, **Budget**, **Routines**, **Appliances Management**, and **AI-Driven Automation** to deliver a seamless and intuitive smart home experience.

Accomplishments :

- Architected and built a secure **RESTful API** using **Node.js** and **Express**, managing **User Authentication** via **Firebase Google Authentication**, device registration, and data for all smart home functionalities.
- Developed and deployed Firmware for **ESP32 Microcontroller** using **C++** to create a **Smart Switch**, retrofitting pre-existing appliances with **Smart Capabilities** using **Relays**. This system utilized **Polling Architecture** for efficient IoT device communication & state management, integrated with backend via a dedicated **API Endpoint**.
- Developed a feature-rich **Android Application** using **React Native**, providing users with remote appliance control (voice and text), real-time energy consumption dashboards, and personalized routine creation.
- Integrated the **Google Gemini API** on the backend to create an **AI-powered Autonomous Mode**, which analyzes usage patterns to intelligently manage appliances and optimize energy savings.
- Implemented a personalized budget tracking system, allowing users to set monthly energy goals, view cost projections, and receive alerts to encourage sustainable living habits.
- Engineered a real-time data logging system that provides per-appliance energy monitoring, empowering users with granular insights into their daily consumption patterns.

EDUCATION

Babu Banarasi Das University

- Bachelor Of Technology - *Computer Science And Artificial Intelligence*   *2024-2028*

City Convent School

- Intermediate - *91.4%*   *2023-2024*
- High School - *90.4%*   *2021-2022*

CERTIFICATIONS AND ACHIEVEMENTS

- **Google Cloud Gen AI Academy Certification** - 6 Monthes Course On Generative AI   *Generative AI Certificate*
- **Let's Upgrade Firebase Studio Certification** - 3 Day Bootcamp On Firebase Studi   *Firebase Studio Certificate*
- **Sustainovation 2025 Hackathon Certificate** - Top 30 National Finalist   *Sustainovation Certificate*
- **Front End Battle 2.0 Hackathon** - IIT Bhubaneshwar Hackathon Finalist   *Front End Battle Certificate*
- **Smallest AI Hackathon** - San Francisco, California Hackathon Finalist   *Smallest A.I. Certificate*
- **Hackorbit Hackathon** - 36 Hours National-Level Hackathon Finalist   *Hackorbit Certificate*

LANGUAGES KNOWN

English - Fluent

Hindi - Fluent

INTERESTS

Internet Of Things (IOT)

ESports Gaming

LINKS

Github : *www.github.com/krishnasinghprojects*

Linkdin : *www.linkedin.com/in/krishnasinghprojects*

Personal Portfolio Website : *www.krishnasingh.live*

Devpost : *www.devpost.com/krishnasinghprojects*