

**Name :** A Sai Charan

**Father Name :** A Nagendra

**Father Occupation :** He was a shopkeeper in my home town

**Mother Name :** A Vani

**Mother Name :** She is a Home Maker

**Native Place :** Puttaparthi , Andhra Pradesh

**Mother Tongue :** Telugu

**Family Details :**

My family is a nuclear family My father name is nagendra he is a businessman and my mother Mrs.Vani she is a homemaker and I have an younger sister she is currently studying 12<sup>th</sup> class.

**Age :** 21

**Languages:** Telugu(fluent),English(fluent)

Programming languages : python,java,cpp,matlab

**Hobbies :** Content creation in youtube in, playing cricket and badminton and browsing internet

My java playlist link- <https://youtu.be/-Bk5d7JXtYk?si=WmCzEQwU2-UR9hXe>

**Strengths :** self motivated , quick learner and adapting to new challenges, very particular to time ,effective communication and good domain knowledge

**Weakness:** I believe people blindly , and i feel low during delayed process , but I'll improve them later

**Contact details :**

Mail ID : [charanakula.632@gmail.com](mailto:charanakula.632@gmail.com)

Linkedin profile : <https://www.linkedin.com/in/charan-akula-674a1b253/>

**Education :**

I'm currently in my third year of Engineering at Rajiv Gandhi University of Knowledge Technologies RK Valley. I'm pursuing a major degree in Electronics and Communication Engineering (ECE) with a CGPA of 8.45/10, along with a minor in Machine Learning.

I completed my PUC from Rajiv Gandhi University of Knowledge Technologies in MBpic with CGPA 9.79/10

I completed my 10<sup>th</sup> class from AP Model School Puttaparthi with a cgpa of a 10/10

**Myself:**

I am charan from puttaparthi a holy town in Andhra Pradesh, I'm currently in my third year of Engineering at Rajiv Gandhi University of Knowledge Technologies RK Valley and pursuing a major degree in Electronics and Communication Engineering (ECE), along with a minor in Machine Learning. I am very passionate about AI and Machine Learning , driven by the potential of technology to solve real-world challenges , and currently i am working on Agents and Gen AI Applications along with that I possess strong communication skills and critical thinking abilities and I pride myself on being enthusiastic and hardworking , and aspiring to build a career in AI & ML domain.

**Why did I choose ECE ?**

My decision to choose ECE was influenced by both my academic performance and the admissions process. During my PUC, I was passionate about both CSE and ECE, but when it came time to apply for my B.Tech, the cutoff for CSE under the open category was quite competitive, and I was ranked around 200 out of 1000 students. With my CGPA of 9.79, I had a strong academic record, but unfortunately, it was not enough to meet the cutoff for CSE, which was 170.

Instead of being disappointed, I looked at ECE as a great alternative because it offered me a solid foundation in both electronics and communication technologies, and it also opened doors to related fields like machine learning. Given my strong interest in technology and problem-solving, ECE turned out to be a perfect fit. Now, I'm able to combine my interests by pursuing a minor in Machine Learning, which has been a very exciting and enriching experience.

### **Why I choose minor in Machine learning?**

I am very passionate about AI and Data Science and aspire to build a career in these fields. Choosing Machine Learning as my minor seemed like the perfect opportunity to gain in-depth knowledge and technical skills in this area. Since Machine Learning is a rapidly growing domain with applications across various industries, it's crucial for my future goals. Additionally, our college offers this minor in Machine Learning, which makes it a great opportunity to specialize in a field I am truly interested in, and I believe it will be incredibly beneficial for my career.

### **Why you want build your carrier in AI and Data Science ?**

AI and Data Science are revolutionizing industries today, and I believe they offer immense opportunities to solve real-world problems and drive innovation across many sectors. I can leverage both my hardware knowledge and data-driven skills to create more efficient and intelligent systems. That's why I chose to dive into AI and Data Science—because I believe these fields offer exciting prospects for innovation, and I want to be part of shaping that future.

**Hobbies:** playing cricket, badminton and carroms  
watching movies  
Listening Music and spiritual pravachanas

### **Skills :**

Technical skills are:

- Proefficient in programming languages :Python, matlab, C and Java
- Strong Mathematical foundations for machine learning and deep learning
- Have Hands-on Experience in Machine Learning ,Deep Learning, LLM's and Gen AI , AI agents
- Data Analysis with PowerBi and Excel
- Skilled in using AI-powered tools and frameworks to accelerate my workflow and enhance productivity

Soft Skills are :

- Good Communication , problem solving , good domain knowledge, critical thinking , collaboration

Adaptability and learning

### **Why are you better fit for this role or why should we select you for this role**

I believe I'm a great fit for this role because of my strong academic background, hands-on experience, and passion for technology, particularly in the fields of AI and Data Science. Though I come from an Electronics and Communication Engineering (ECE) background, my true passion has always been in AI and Data Science. To dive deeper into this subject, I am pursuing a minor degree in Machine Learning, which has provided me with a solid foundation in both the theoretical and practical aspects of these technologies.

## My Projects :

- ECE Department Chatbot Using RAG and Open-Source LLMs for Assisting ECE Students in RGUKT,RK Valley
- Developed a AI Clone of mine(personalised chatbot) for good Resume and Portfolio Interaction
- Complete Data Analysis on Sales & Profit Analysis (Automobile Company) & Sales & Tax Dashboard (Supermarket)
- Developed – SmartGov AI Application for Government Schemes (Andhra Pradesh)
- Developed – Squint (Strabismus) Detection System Using Deep Learning and Hardware Setup
- Hands on experience in many iot and robotics projects like smart traffic system,smart irrigation and e.t.c

To see my work , have a look on my github profile

<https://github.com/charan-akula>

## Detailed information about the projects Projects

1.) Title: ECE Department Chatbot Using RAG and Open-Source LLMs for Assisting ECE Students in RGUKT,RK Valley

Technologies Used: Streamlit, LangChain, Cohere Embedding Model, FAISS, LLaMA 3.2

### Description:

To enhance the student experience at Rajiv Gandhi University of Knowledge Technologies, I developed a specialized chatbot for the **Electronics and Communication Engineering (ECE) department**. This intelligent assistant is built using the **Retrieval-Augmented Generation (RAG)** method, which combines the power of data retrieval and language generation to provide accurate and context-aware responses.

The chatbot is designed to assist ECE students by answering questions related to various aspects of the department such as lab details, faculty information, course subjects, and the course structure. It has been trained using data pulled from the department's official website and course structure PDFs, making it a highly relevant and reliable resource for students.

### Key Features:

- **RAG-based Design:** Combines data retrieval and generation to provide accurate, context-aware responses.
- **LangChain Framework:** Powers the conversational flow, ensuring smooth interactions.
- **Cohere Embedding Model:** Enhances semantic understanding for better response relevance.
- **FAISS for Fast Retrieval:** Efficient vector store for quick document searches.
- **LLaMA 3.2 Model:** Generates fluent and contextually accurate responses.

## 2.) Developed a Personal Chatbot (AI Clone) for Resume and Portfolio Interaction

Description :I Created a personal chatbot designed to interact with users and provide insights into my technical skills, projects, and other relevant information, similar to a personal AI clone. The chatbot leverages **Llama Index** for fast and efficient retrieval of data from vector stores and utilizes the **Gemini model** for generating detailed, context-aware responses. This tool is aimed at enhancing

resume analysis and portfolio exploration by offering a dynamic and engaging way to explore my work and expertise.

### Key Features:

- **Interactive Chatbot:** Designed to allow users to interact with an AI clone for insights into my skills, experience, and projects.
- **Faster Response Retrieval:** Implemented **Llama Index** for optimized, quick retrieval of relevant information from stored data.
- **Contextual Response Generation:** Integrated **Gemini model** to generate natural, context-sensitive responses for a personalized user experience.
- **Resume & Portfolio Integration:** Created as a tool for better showcasing my expertise during resume analysis and portfolio reviews.
- **Dynamic Query Handling:** Capable of answering detailed questions regarding my technical background, projects, and career history

### 3.) Complete **Data Analysis on Sales & Profit Analysis (Automobile Company) & Sales & Tax Dashboard (Supermarket)**

I performed in-depth data analysis for an automobile company to assess sales performance and profitability, using Excel to organize, clean, and analyze large datasets. I developed dynamic dashboards and detailed reports that enabled management to track performance metrics and identify trends, driving business insights and improvements. Additionally, I worked on a supermarket project, where I designed and implemented interactive sales and tax dashboards using Power BI. This helped the business visualize real-time sales data and tax calculations, providing an actionable view of key metrics.

### Key Points:

- Analyzed sales and profit data for an automobile company using **Excel**, identifying key trends and performance metrics.
- Developed **dynamic dashboards** in Excel to visualize sales and profit data for easier decision-making.
- Created automated **reports and KPIs**, providing actionable insights for strategic business decisions.
- Designed interactive **Power BI dashboards** for a supermarket to track sales, taxes, and inventory in real-time.
- Integrated multiple data sources in Power BI to provide a consolidated view of financial performance.
- Automated data processing and reporting, improving efficiency and reducing manual work.
- Delivered **clear Power BI reports** on sales, tax, and inventory, enhancing operational insights and decisions.

### 4.) Developed – SmartGov AI Application for Government Schemes (Andhra Pradesh)

we developed a SmartGov AI application aimed at assisting the people of Andhra Pradesh with information and eligibility details for government schemes. The app allows users to create a profile, which then helps recommend personalized government schemes they are eligible for. Built using **Streamlit** for the user interface, **BeautifulSoup** for web scraping, **ChatGPT** for content generation and recommendations, and **Tesseract OCR** for extracting text from images.

### Key Features:

- **User Profile Creation:** Users can create and manage profiles to receive tailored scheme recommendations.

- **Web Scraping:** Leveraged **BeautifulSoup** to gather up-to-date government scheme data from online resources.
- **AI-Powered Recommendations:** Integrated **ChatGPT** for content generation and personalized scheme suggestions.
- **OCR Functionality:** Utilized **Tesseract OCR** to extract text from images, making government scheme details more accessible.
- **Interactive Interface:** Developed an intuitive user interface using **Streamlit** for easy navigation and interaction.

## 5.) Developed – Squint (Strabismus) Detection System Using Deep Learning and Hardware Setup

We Conducted deep research and analysis to develop a deep learning model and hardware setup for detecting strabismus (squint). The system analyzes eye images to detect misalignment by assessing the symmetry of both eyes and the positions of the canthus. The model utilizes mathematical concepts for image symmetry analysis, alongside deep learning techniques to accurately determine the position of the eye's center. In the hardware setup, an **Arduino** and camera module were used to capture pupil and canthus positions for real-time detection.

### Key Points:

- **Deep Learning Model:** Developed a model to detect strabismus by analyzing eye images and calculating symmetry between both eyes.
- **Mathematical Symmetry Analysis:** Applied mathematical techniques to measure the symmetry and alignment of both eyes.
- **Canthus Position Detection:** Used deep learning to locate the center and positions of the eye's canthus, essential for accurate diagnosis.
- **Hardware Setup:** Integrated **Arduino** and a camera module to capture real-time eye images, detecting pupil and canthus positions.
- **Real-Time Detection:** Created a real-time detection system to assist in identifying squint by analyzing the positions of the eye's key points.
- **Research & Development:** Performed extensive research into strabismus detection, contributing to the development of an effective diagnostic tool.

### Work experience :

- Completed 3 months online summer internship from Pantech Solutions in the domain of AI and data Science from July 2024-Oct 2024
- Completed one month virtual internship from Orion Technologies in the domain of machine learning and deep learning Nov 2024
- I was selected for Konam fellowship program conducted by Hitloop AI startup, and currently working as a fellow member in Hitloop company as a part of Hlearn project related to content creation on engineering fields using the AI
- Check my LinkedIn profile for certifications and confirmation ,

<https://www.linkedin.com/in/charan-akula-674a1b253/>

Github profile : <https://github.com/charan-akula>

Linked in profile : <https://www.linkedin.com/in/charan-akula-674a1b253/>