

# Sri Charan Thoutam

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🔗 CodeWithCharan

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## INTERNSHIPS

### Data Science & GenAI Intern

#### Innomatics Research Labs

📅 Sep 2024 – Dec 2024

- Conducted comprehensive **Exploratory Data Analysis (EDA)** to uncover trends, detect outliers, and analyze relationships within datasets.
- Developed **AI-powered solutions** leveraging Generative AI techniques to address real-world challenges.
- Project Lead:** Led a 6-member team to develop GenAI-powered Discord bots for text and image generation. Successfully developed two bots:
  - Boa:** A conversational text-generation bot utilizing LangChain, Google Gemini API, and ChromaDB for context-aware responses using RAG.
  - Kiku:** An advanced bot enabling text extraction from images using PyTesseract and text-to-image generation using Stable Diffusion API.
- Key Projects:**
  - 🔗 **Diamond Price Prediction with MLOps:** [Project Summary](#)
  - 🔗 **Electric Vehicle Data Analysis:** [Analysis Insights](#)
  - 🔗 **Boa AI:** [Project Overview](#)

## EDUCATION

### B.Tech in Computer Science and Engineering (AI & ML)

#### Ganapathy Engineering College

📅 09/2021 – 07/2024

📍 CGPA: 7.01/10

### Diploma in Electronics and Communication Engineering

#### VMR Polytechnic

📅 05/2018 – 07/2021

📍 CGPA: 7.5/10

### Board of Secondary Education SSC - Class X

#### ASSISI ENGLISH MEDIUM SCHOOL

📅 04/2018

📍 CGPA: 8.3/10

## SKILLS

- Programming Languages:** Python (Proficient), Bash
- Generative AI:** LangChain, Hugging Face, OpenAI GPT API, Google Gemini API, Prompt Engineering, Fine-Tuning Models, VectorDB, RAG (Retrieval-Augmented Generation)
- Natural Language Processing (NLP):** Text Generation, Sentiment Analysis, Summarization, OCR (PyTesseract), Embedding Models
- Multimodal AI:** Text-to-Image (Stable Diffusion, DALL-E), Image-to-Text (OCR)
- Frameworks:** PyTorch, TensorFlow, FastAPI, Flask, Streamlit, Scikit-learn
- MLOps:** Docker, GitHub Actions, MLFlow, CI/CD Pipelines
- Databases:** MySQL, MongoDB, ChromaDB
- Cloud:** AWS (EC2, ECR, S3)
- Version Control:** Git, DVC
- OS:** Windows, Linux

## PROJECTS

### Boa - A GenAI-Powered Discord Bot

**Tech:** Python, LangChain, Gemini API, ChromaDB, RAG, Discord API, Sentence Transformers

- Led a **6-member team** to design and implement Boa, a context-aware, GenAI-powered Discord bot leveraging **RAG** for intelligent, human-like interactions.
- Developed an **end-to-end pipeline** integrating LangChain, ChromaDB, and Gemini 2.0 model to store and retrieve user interactions, enabling **contextual responses**.
- Engineered a **Discord integration** to process user mentions, retrieve relevant data, and generate replies **in real time**.
- Created a **customizable prompt template** for consistent and **high-quality responses**.
- Enhanced **ChromaDB** with Sentence Transformers **chunking**, ensuring efficient document **storage** and **retrieval**.
- Troubleshooted and optimized performance by upgrading the Gemini model, improving **speed** and **accuracy by 20%**.
- 🔗 **Boa's Demo:** [View Video](#)

### Vision-AI

**Tech:** Python, Streamlit, PyTorch, Gemini API, pytesseract, pyttsx3, Faster R-CNN

- Vision-AI** is designed to assist visually impaired individuals in understanding their surroundings.
- Provides **real-time scene analysis**, **obstacle detection**, **text-to-speech conversion**, and **personalized task assistance**.
- 🔗 [CodeWithCharan/Vision-AI](#)

## ACHIEVEMENTS

- Earned **5 stars** in **Python** on HackerRank
- Earned **5 stars** in **SQL** on HackerRank

## ARTICLES & PUBLICATIONS

- Evolution of Language Representation Techniques: A Journey from BoW to GPT** - [Read Article](#)
- Hacking the System Design: How Search Engines Understand and Deliver Results** - [Read Article](#)

## CERTIFICATES

- Python:** HackerRank
- SQL:** HackerRank
- Problem Solving:** HackerRank
- Machine Learning with Python:** freecodecamp
- Generative AI:** Udemy

## LINKS

- 🔗 [leetcode.com/u/CodeWithCharan](https://leetcode.com/u/CodeWithCharan)
- 🔗 [hackerrank.com/CodeWithCharan](https://hackerrank.com/CodeWithCharan)
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