JAIRUS RAJ SINGH S

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PROFILE

AI/ML and Software Engineering enthusiast with strong Java and Python programming skills, and a solid foundation in Data Structures and Algorithms. Experienced in building and deploying real-world systems with FastAPI, Docker, and LangChain. Passionate about scalable software design, NLP, and contributing to impactful tech solutions. Seeking opportunities to learn, collaborate, and innovate.

EDUCATION

B.E. Computer Science Engineering - Sri Krishna College of Technology, Coimbatore   **Year: 2023-Present**
- **Focus:** Software Development

Schooling: Rose Mary Matriculation Higher Secondary School, Tirunelveli (93.33%)

INTERNSHIPS & EXPERIENCES

AI Intern – MALAR Software Solutions   **Duration: May 2025 - June 2025(OnSite)**
- Collaborated on AI model development for real-world applications, improving model accuracy and deployment readiness.

Machine Learning Intern – Prodigy Infotech   **Duration: May 2025(Remote)**
- Worked on various ML tasks including classification, regression, and clustering. Gained hands-on experience.

Data Science Intern - CodSoft   **Duration: Dec 2024-Jan 2025(Remote)**
- Built models with Scikit-learn, Matplotlib, and Seaborn, performing EDA and data analysis.

PROJECTS

AI-Powered Emotional Chatbot Companion
- Built an AI-powered chatbot with FastAPI, LangChain, and Mistral LLM for emotional responses.
- Integrated emotion detection using transformers pipeline and LangChain for personalized, context-aware interactions based on sentiment.
- Utilized Pydantic for data validation and CORS middleware to ensure secure communication and performance.

CareerZync-ATS – Smart Resume Optimizer
- Parsed resumes with PyMuPDF; analyzed compatibility with Google Gemini API for ATS optimization.
- Built RAG-based chatbot using LangChain, FAISS, Sentence Transformers to deliver resume insights.
- Generated ATS skill gap reports and improvement tips using Gemini, enhancing resume effectiveness.

DeepSeek R1:1.5b Model Deployment
- Deployed DeepSeek R1.5B model using Docker (jruzz0122/deepseek-r1-ollama) on a Linux environment, enabling scalable AI solutions.

Voice-based Real-Time RAG System –
- Developed a full-duplex voice AI using local STT/TTS models, WebSocket streaming, and audio signal handling.
- Built a RAG pipeline with nomic-embed-text, pgvector (HNSW), PostgreSQL, and Gemini for response generation.
- Tuned prompts, audio flow, and latency for a near production-ready user experience.

ACHIEVEMENTS

- Led Team **Spark Z** in **SMARTATHON 2025** by IEEE IAS Madras Chapter & L&T, focusing on **Revolutionizing Education System with AI** (2025)
- Led Team **Sparks** to develop an **AI-Powered Emotional Companion Chatbot** at **AI Innovate Hackathon, Thiran2k25** (2025)
- Led Team **Brain Sparks** in **Neo Hacksprint** Hackathon by iamneo, building a **Fraud Detection System using ML** (2024)
- Secured **7th place** in **HACKMASTER** Intra-College Codeathon at SKCT among 100+ participants (2024)

CERTIFICATIONS

- Design And Analysis Of Algorithms(Iamneo)
- Advaced Java PRogramming(Iamneo)
- Machine Learning Using Python(SWAYAM) – 78%
- AWS Cloud Practitioner Essentials
- Developing Machine Learning Solutions(AWS)
- Microsoft Azure AI Fundamentals: AI Overview
- Wheels on Bot Robotics Course by SKCT(Line Follower Bot)
- Object-Oriented Design (Coursera) - OOD principles, UML modeling, and modular architecture

TECHNICAL SKILLS

- **Languages:** Python, Java, SQL
- **Libraries:** Pandas, Scikit-learn, Matplotlib, FAISS, Sentence Transformers, Hugging Face
- **Technologies/Frameworks:** FastAPI, LangChain, RAG,, OpenAI API, MongoDB, Gemini API
- **CS Foundations:** Data Structures & Algorithms, Object-Oriented Design
- **Tools:** Docker, Ollama, Postman, ThunderClient, VS Code, Git
- **Cloud & DevOps:** AWS, GitHub Actions, CI/CD, SageMaker Pipelines
- **Platforms:** GitHub, AWS SageMaker, Jupyter Notebooks, Google Colab

MY ACTIVITIES

- **IEEE Student Member**
  - Participated in technical events including coding contests and hackathons, actively engaging in peer learning and skill-building.
- **Rotaract District Priority Project Director**
  - *Rotaract Club of Sri Krishna College of Technology, Rotary International District 3206*
  - Recently appointed; supporting district-level service initiatives and youth leadership programs.