Yusuf

Software Developer | Associate Team Lead | Module Lead | AI Developer

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Associate Technical Lead with over 5+ years of experience specialising in generative AI, Agentic AI, Python development, and advanced machine learning. Expertise in designing and deploying generative and Agentic AI solutions, including generative chatbots, autonomous multi-agent systems, and natural language processing (NLP) models (NLTK). Proven ability to leverage frameworks such as **CrewAI** and AutoGen to orchestrate **Agentic AI**-driven multi-agent systems for complex problem-solving, decision-making, and workflow automation. Proficient in developing and scaling AI-driven applications using Django and FastAPI. Successfully delivered generative and Agentic AI projects that enhanced automation, user engagement, and content generation. Skilled in integrating large language models (LLMs), optimising model performance, and ensuring reliability in production environments. Adept at driving innovation in generative and Agentic AI applications, focusing on scalable, cloud-based solutions and cutting-edge AI advancements.

PROFESSIONAL EXPERIENCE

PELOCAL FINTECH PVT LTD *NOIDA*

ASSOCIATE TECHNICAL LEAD *AUG 2023- PRESENT*

- **Developed and deployed RESTful APIS** using FastAPI, enabling seamless data exchange for internal and external services.
- **Designed and implemented a Generative AI chatbot** using FastAPI and LangChain, enhancing user interaction and providing automated support.
- **Engineered a WhatsApp bot** using FastAPI, streamlining user access to key services and information.
- **Built and maintained analytics dashboards** using the ELK stack (Elasticsearch, Logstash, Kibana), providing real-time insights into system performance and user behaviour.
- **Designed and implemented** scalable architectures, ensuring system stability and performance under increasing user loads.

SURAJYA SERVICES PVT LTD (Reliance Industry Limited) *DELHI*

SOFTWARE DEVELOPER- AI *JAN 2022- AUG 2023*

- **Developed and deployed** machine learning models to detect Govt IDS, improving operational efficiency by 80%..
- **Performed** extensive data analysis and preprocessing using Python libraries (Pandas, NumPy), ensuring data quality and model accuracy.
- **Designed and implemented** a data pipeline for MySQL, facilitating real-time data analysis and reporting.
- **Developed** reports and dashboards to visualise key performance indicators, providing actionable insights for decision-making.

TBM TECHNOLOGIES PVT LTD *DELHI*

SOFTWARE DEVELOPER *JUL 2021- JAN 2022*

- **Developed** backend functionalities using Python and the Django framework, supporting the development of online insurance portals.
- **Engineered** REST APIS for seamless data transfer between front-end and back-end systems.

EPIXEL SOFTWARE PVT LTD *NOIDA*

JR. SOFTWARE DEVELOPER *MAR 2020- MAR 2021*

- **Developed** front-end components for online insurance portals using HTML, CSS, and JavaScript.
- **Performed** debugging and troubleshooting of software applications, ensuring smooth operation and user experience.
- **Gained experience** in software development lifecycle, including coding standards, version control (Git), and basic debugging.

TECHNICAL SKILLS

Programming Languages & Frameworks:

Python, Django, FastAPI, ORM, RESTful APIs, PostgreSQL, Machine Learning (ML), Large Language Model (LLM), Deep Learning (DL), Natural Language Processing (NLP), Generative AI (GenAI), Transformers, Applied AI, BERT, GPT, LangChain, Retrieval-Augmented Generation (RAG), Convolutional Neural Networks (CNN), Chroma DB, Data Visualisation, Natural Language Generation (NLG), Optical Character recognition (OCR), Ollama, Chatbot Development, CrewAI, AutoGen, Agentic AI.

Other Technical Skills:

Object-Oriented Programming (OOP), CI/CD Pipelines(e.g., GitHub Actions), Monitoring Tools (e.g., Kibana, Grafana), WhatsApp API Integration, Containerisation (Docker), ELK Stack

AREAS OF EXPERTISE

Agile Methodology, Analytical Thinking, AI Product Development, Product Development, Problem-Solving, Technical Leadership.

KEY ACHIEVEMENTS/PROJECTS

Generative AI Chatbot
- Implemented **advanced dialogue management** to maintain context throughout the conversation, allowing for more natural back-and-forth exchanges beyond single questions and answers.
- Further enhanced the chatbot by **fine-tuning the pre-trained LLM** on specific datasets relevant to its intended application, significantly improving its accuracy and understanding within that domain.

    Technologies used: **Python, Chroma DB, NLTK, NLP, LangChain, Ollama, Cloud Platforms (GCP), OpenAI API, LLM.**

Customer Support Optimisation System
- **Multi-Agent Workflow:** Leverages Agentic AI through CrewAI to deploy specialised autonomous agents (Ticket Classifier, Knowledge Base, Solution Generator, Quality Assurance) for streamlined ticket processing, enabling independent decision-making from classification to response delivery.
- **Automation and Scalability:** Integrates vector databases (Pinecone), ticket system APIs, and RAG-enabled LLMs to power Agentic AI-driven automation of routine inquiries, significantly reducing human agent workload while ensuring scalability.

    Technologies used: **Python, LLM, Autogen, Crew AI, NLP, LangChain, Ollama, Cloud Platforms (GCP), OpenAI API.**

Speech-Based AI Agent Project
- Developed a **real-time conversational AI agent** that enables users to interact using their voice. It utilises **OpenAI's Whisper** for accurate speech-to-text conversion, **Llama 3.1** for understanding and generating relevant responses, and a separate **text-to-speech model** to vocalise the AI's output, creating a fluid voice interface. The system is designed for **low-latency processing** to ensure a natural conversational flow.

    Technologies used: **Python, FastAPI, Whisper, OpenAI API, llama3.1, RAG, Chroma DB, LLMOps.**

WhatsAPP Chatbot
- Engineered a WhatsApp chatbot integrated with the Business API, enabling automated customer support and business payment flow.
- Chatbot is being used to send reminders and accept webhooks to show results to the users.

    Technologies used: **Python, WhatsApp Business API, FastAPI, Django, Postgresql.**

ELK Analysis Dashboard
- Designed and deployed an ELK dashboard for real-time log analysis and system performance monitoring, improving operational efficiency.

    Technologies used: **Elasticsearch, Logstash, Kibana.**

Fast-API Development
- Built scalable and efficient RESTful APIS using FastAPI, implementing robust data validation and authentication mechanisms.

    Technologies used: **Python, FastAPI, RESTful APIS.**

Delhi Jal Board Meter Reading - OCR
- Developed an OCR solution using CNN to automate meter reading extraction from images, significantly improving data entry efficiency.

    Technologies used: Python, Paddleocr, Hugging Face, OCR.

Govt ID Recognition - OCR
- Implemented an OCR system for extracting data from government IDS, utilising deep learning techniques to achieve high accuracy in character recognition.

    Technologies used: Python, TensorFlow/PyTorch, OCR.

EDUCATION

UNIVERSITY OF MARYLAND
PG DIPLOMA IN DATA SCIENCE & MACHINE LEARNING

SIKKIM PROFESSIONAL UNIVERSITY   *AUG 2018- JUL 2021*
BCA (COMPUTER SCIENCE)

DELHI INSTITUTE OF TOOL ENGINEERING   *DELHI, AUG 2014- JUL 2017*
DIPLOMA IN MECHANICAL ENGINEERING

LANGUAGES

ENGLISH, HINDI