

Avinash Thakur

Senior Software Developer

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Dedicated and experienced professional with over 8 years of expertise in Generative AI, Machine Learning, and Natural Language Processing seeking opportunities to leverage skills in solving complex problems and contributing to innovative projects in AI-driven environments.

EXPERIENCE

Data science Specialist, LTIMindtree, India

Oct 2024 – Present

Project: CanvasAI – Agentic Chatbot and RAG Framework

Working on the development of advanced Agentic AI-based chatbot systems and Retrieval-Augmented Generation (RAG) frameworks.

Key Responsibilities and Achievements:

- Contributed to the CanvasAI project, a versatile framework designed to simplify the creation of LangGraph-based agents.
- Developed reusable components enabling users to define and launch various agent types such as ReAct agents, Supervisor agents, and Network agents, each equipped with customized tools and workflows.
- Designed modular logic that supports both use case-specific agents and general-purpose multi-agent orchestration.
- Ensured seamless integration with multiple LLM providers and enhanced the framework's flexibility for tool-augmented reasoning and agent coordination.

Senior Software Developer, Firstsource Solutions, RPSG, Hyderabad, India

Dec 21 – Oct 2024

Project: Generative AI-Based Entity Extractor:

As part of a collaborative team effort, spearheaded the development and deployment of a cutting-edge Generative AI-based Entity Extractor service. Leveraging advanced techniques such as Retrieval Augmented Generation, Langchain, and Azure cloud resources, the project aimed to provide clients with a robust solution for extracting entities from unstructured text data.

Key Responsibilities and Achievements:

- Led the design and implementation of the entity extraction pipeline, utilizing Generative AI algorithms to enhance the accuracy and efficiency of the extraction process.
- Integrated state-of-the-art retrieval mechanisms to augment the generation process, enabling the system to retrieve relevant context and improve the quality of extracted entities.
- Collaborated closely with Azure cloud experts to architect a scalable and reliable infrastructure for hosting the entity extractor service, ensuring optimal performance and availability for clients.
- Developed an API for seamless integration with clients' user interfaces, allowing them to effortlessly incorporate the entity extraction functionality into their applications and workflows.
- Conducted thorough testing and validation of the system to ensure accuracy, reliability, and adherence to client requirements and industry standards.
- Provided ongoing support and maintenance for the deployed service, addressing any issues or enhancements requested by clients and stakeholders.

Project: Generative AI-Based Cognitive Search

Led the development and deployment of a state-of-the-art Generative AI-based Cognitive Search service aimed at providing intuitive search capabilities within a client-provided corpus of documents. Utilizing Langchain and Generative AI technologies, the project facilitated efficient retrieval of relevant information in response to user queries, enhancing information discovery and accessibility for clients.

Key Responsibilities and Achievements:

- Conceptualized and designed the architecture for the Generative AI-based Cognitive Search service, leveraging Langchain technology to generate contextually relevant responses within the client's document corpus.
- Collaborated closely with the client to understand their specific requirements and customize the search service to effectively meet their needs and objectives.
- Implemented advanced algorithms for document indexing, semantic understanding, and query processing, ensuring accurate and efficient retrieval of information from the corpus.
- Deployed the Cognitive Search service on the Azure cloud platform as an API, providing clients with seamless access to the search functionality through integration with their user interfaces.
- Conducted extensive testing and optimization of the search algorithms to enhance performance, scalability, and relevance of search results.
- Provided training and documentation for clients on how to effectively use and integrate the Cognitive Search service into their existing workflows and applications.

Project: Generative AI based Email Automation

Led the development and deployment of a sophisticated Generative AI-based email automation solution aimed at streamlining communication processes and enhancing productivity. The project involved analysing client emails and replies to create a tailored automation system that leveraged Generative AI technology for intelligent response generation.

Key Responsibilities and Achievements:

- Spearheaded the analysis of client emails and replies to identify patterns, recurring queries, and common responses, laying the foundation for the development of the email automation solution.
- Collaborated with data scientists and machine learning engineers to design and train Generative AI models capable of generating contextually relevant responses to incoming emails.
- Developed a scalable and efficient email processing pipeline using AWS cloud resources, ensuring high availability and reliability of the automation system.

Associate, Cognizant Technology Solutions, Hyderabad, India

Nov 17 - Dec 21

Name Entity Extraction:

- Developed a tool for upload own data do annotation and do custom training using different libraries like flair, spacy, rasa.
- Developed a NLP based tools to extract the intents and entities from the mails.
- Developed solutions for extracting intents and entities using AWS Comprehend Key Achievements.
- The solution helped client to automate and speed up some manual efforts.
- Customers were able to train and deploy models and integrate.

Image Processing:

- Developed a tool to extract the hand written characters from the forms within constraints.
- Part of data preprocessing and data Augmentation.
- Developed tool for marking the start and end coordinates of field in forms

Key Achievements:

- The solution was used by multiple customers for extracting multiple fields from different forms.

Aws Infra Setup Automation:

- Developed tool launch new AWS ec2 instances and configuration and installation of software use by RPA tools
- Developed Solutions to automate process of taking data backup from database and upload it to s3 bucket

SKILLS

- Langgraph ,Langchain , Genai
- Languages: Python, Shell Script, Powershell, SQL.
- Cloud: Azure Cloud, AWS
- LLM Models: Chatgpt , Cohere, Claude
- DL/ML Tools :Pandas, NumPy, Matplotlib, Seaborn, NLTK, Spacy.
- Databases: MySql, Psql, MongoDB
- Other Tools: Flask ,Docker, Git