RajaMohan

Senior AI Developer – Generative AI

CONTACT

+91 9986201312
rajamohanreddyai.gen@gmail.com

Professional Summary

With over 7+ years of experience in Artificial Intelligence, I specialize in creating advanced AI-driven solutions, including image analytics, generative AI, and enterprise chatbots integrated with Twilio and WhatsApp Business APIs. I have successfully enhanced complex image recognition systems and improved the accuracy of RAG applications using both open-source and proprietary GPT models. My expertise spans programming with solid principles and designing deployment strategies tailored to client-specific requirements. I excel in delivering high-quality AI solutions while effectively managing client relationships and expectations.

WORK EXPERIENCE

SRS Infoway (payroll) – Infosys(client) **14-10-2024-Present**
Expert – AI (Generative AI Developer)

- **Classification of complex documents: Implementing the clustering approach by using the Bertopic modeling to cluster the semantically similar / cosine similarities of the documents together and extract the meta data of the documents.**
- **Implementing the end-to-end RAG functionality for Bank specific domain by handling the both structured and unstructured data**

Tools & Techniques: Python, Azure Synapse, GitHub Actions, Azure AI, Fast API. Docker, Azure Container Registry, Transformers(Bertopic), Randomforest, Azure Analytics studio.

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Senior AI Developer – Generative AI ***03/2022 – 11-10-2024***

- Developed Monitoring and Observability Solutions: Implemented a comprehensive monitoring and observability framework for enterprise RAG applications using Langfuse, ensuring real-time insights and operational efficiency.
- Built Monitoring Tools for Azure Search Index: Created a specialized tool to track the status of indexers within Azure Search Index, enhancing the visibility and management of indexing processes.
- Enhanced Retrieval Accuracy for Complex Documents: Improved retrieval accuracy in enterprise RAG by handling both structured and unstructured data through document multimodal LLMs, optimizing the system's ability to process complex documents.
- Implemented Natural Language to Image Retrieval: Leveraged Azure Vision API and multimodal LLMs to enable semantic search, allowing for natural language-based image retrieval, enhancing user experience.
- Engineered Production-Grade Backend for Enterprise RAG:
  - Managed rate limit errors to ensure consistent API performance.
  - Implemented reverse proxy and application route balancing for optimized traffic management.
  - Handled database authentications and addressed security certification errors to maintain system integrity and security.

Tools & Techniques: Python, Azure App Service, Azure Synapse, GitHub Actions, Azure AI, Power BI, Fast API. Docker, Azure Container Registry

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AI Developer ***03/2019 – 02/2022***

- Utilize advanced statistical techniques and predictive modelling to forecast risks, optimize processes, and improve operational efficiency in Retail chain operations.
- Established a robust MLOps pipeline, reducing the time taken for model deployment by 50% and increasing overall model reliability.
- Deploy AI/ML solutions in on-premises, production server, or cloud environments using MLOps methodology.
- Led the development of a custom object detection algorithm using TensorFlow and Keras, specifically a Fast R-CNN model, to identify and categorize SKUs within chiller images.
- Collaborated with stakeholders to define requirements and ensure the algorithm met audit and inventory management needs.
- Acquired and labelled images of ABIN-related SKUs for model training, ensuring accuracy and relevance of the training dataset.

- Design, develop, and implement innovative computer vision algorithms using deep learning frameworks like TensorFlow, Keras, PyTorch, and Caffe to address unique use cases in planogram detection.
- Image quality assessment aims to quantitatively represent the human perception of quality, these metrics are commonly used to analyze the performance of algorithms in different fields of computer vision like image compression, image transmission, and image processing.
- By using the above product, we can measure the Light Exposure, Angle of the Images, (Whether the captured image is tiled or not and position of images) and Blurriness check etc.

Product/Domain: Retail, FMCG, Supply chain

SKILLS

Azure Cloud Services:

Azure VMS, VNET, Azure ML studio, Function App, Azure DevOps, ADF, Synapse Analytics, Azure Kubernetes, Azure Container Registry, Azure AD, Azure Key vault.

DevOps: Git, GitHub, GitHub Actions, Azure DevOps, Docker.

ETL/ELT: Azure Synapse, Glue.

Scripting: Python: Flask, Fast API, Pandas, sklearn, Bash, SQL, Big Query, pytest.

Data Science

Regression, classification, Time Series Forecasting, ensemble methods, clustering, NLP, Hugging Face API, Open AI, Deep learning, TensorFlow, torch.

MLOPS: Mlflow, Azure ML Studio, Azure AI.

Visualization: Power BI, Streamlit, Dash.

Monitoring: Azure Monitor, Langfuse.

PREVIOUS EXPERIENCE

Consultant, Vcreate Technologies Bangalore 01/2016 - 07/2018

EDUCATION

Bachelors in Technology

Electronics & Communication Engineering JNTU Andra Pradesh **2009-2014**