

MANOHAR PALANISAMY

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WORK EXPERIENCES

Senior Associate - Machine learning

Dec 2018 – Dec 2023

Sevasys Technologies

Bangalore

- Deployed document Q&A RAG pipelines in Generative AI, leveraging LLMs and vector embeddings to enhance natural language processing capabilities. Utilized AWS services and efficient deployment tools for effective implementation.
- Collaborated across teams to deploy scalable AI systems, integrating cloud computing, version control systems, and CI/CD pipelines for iterative development and deployment of advanced machine learning solutions.
- Optimized operational efficiency by integrating AI models into production systems using containerization, automation frameworks, and modern AI deployment practices, ensuring robust deployment of Document Q&A RAG pipelines and other AI applications.

Executive Software Developer

Jan 2017 – Dec 2018

QuantumLink Communications Pvt Ltd

Mumbai

- Developed FieldSense, a research-based web application for Salesforce tracking.
- Handled feature enhancements and bug fixes, including requirements analysis, design documentation, and impact analysis.
- Worked on an email system, ensuring timely delivery and quality, adhering to network and email protocols and client standards.

TECHNICAL SKILLS

Gen AI Frameworks: OpenAI GPT-3.5, Meta Llama3, Langchain Ecosystem, HuggingFace, Google Generative AI,

Artificial Neural Networks: Perceptron, MLP, CNN, RNN, LSTM, GRU, BRNN, Autoencoders, GAN, Residual Net, Transformers, ChatGPT, Llama3, Gemini Pro, Gemini Pro Vision.

ML Model And Algorithms: Linear Regression, Logistic Regression, SVM, Gradient Descent, SGD, minibatch GD, Adam etc.

Coding Skills: Scripting and web development including Python (NumPy, scikit-learn) , Streamlit, Java, FastAPI, HTTP Server, Mail protocols and DNS server

Deep Learning Frameworks: TensorFlow, Keras, PyTorch

Natural Language Processing: NLTK (Natural Language Toolkit), spaCy

Model Evaluation: Cross-validation, ROC curve analysis, Confusion matrix, Grid search, Hyperparameter tuning

Deployment: Docker, AWS ECR, SageMaker, BedRock, AppRunner, lambda, EC2, S3, Kubernetes, Huggingface Spaces, Vercel, CloudflareCDN

Cloud Platforms: AWS

Software Development: Agile methodology, Continuous Integration/Continuous Deployment (CI/CD), GitHub Actions

Database Management: MySQL, MongoDB, Chroma DB, FAISS, Pinecone Vector Database

Version Control: Git

CERTIFICATIONS

Generative AI with Large Language Models [MAVEJZ9P9AV5]

Sep 2023 – Apr 2024

DeepLearning.AI And Amazon Web Services

Coursera.org

Deep Learning Specialization [EKJCGU5G2NXF]

July 2023 – Feb 2024

DeepLearning.AI

Coursera.org

Machine Learning Specialization [2CE3DQW8Z2NG]

Jun 2023 – Feb 2024

Stanford University And DeepLearning.AI

Coursera.org

Applied AI with DeepLearning [DRENBK43NW8]

Dec 2021 – Jan 2022

IBM

Coursera.org

PROJECTS

RAG-Powered Document Q&A with LLMOps | *AWS Bedrock, AppRunner, ECR, Langchain, FAISS, Docker, GitHub Actions,*

- Implemented a RAG model for document-based Q&A using AWS Bedrock meta.llama2-13b-chat-v1 for inference and amazon.titan-embed-text-v1 for embeddings, leveraging LLMOps principles.
- Utilized AWS services like Bedrock, AppRunner, and ECR for scalable deployment and Langchain for NLP tasks.
- Employed FAISS for efficient similarity search and clustering, Docker for containerization, and GitHub Actions for CI/CD, adhering to LLMOps best practices.

Gemini Pro Vision: The Future of Invoice Data Extraction | *Python, Gemini Pro Vision, Huggingface Spaces* **Live**

- Developed a cutting-edge solution to automate invoice processing using Google Generative AI Gemini Pro Vision Model.
- Leveraged image-to-text conversion and advanced NLP techniques to extract key information from invoices with precision and accuracy. I have Used the Streamlit interface for designing the application.
- Integrated Huggingface Spaces for deployment and management, making it accessible via the web at <https://huggingface.co/spaces/ManoharPalanisamy/InvoiceExtractor>

Gemini Pro: Text-to-SQL Query Generation | *Python, Gemini Pro, SQLite, Streamlit, Huggingface Spaces* **Live**

- Developed an end-to-end project utilizing the Google Generative AI - Gemini Pro Model.
- Created a user-friendly interface using Streamlit for text-to-SQL query generation.
- Designed and implemented functionality to extract information from SQLite databases based on user input prompts.
- Utilized Huggingface Space deployment for seamless integration of AI models, making it accessible via the web at <https://huggingface.co/spaces/ManoharPalanisamy/TextToSQLGenerativeAI>

ChatGPT MCQ Generator | *OpenAI API, chatgpt-3.5-turbo, Langchain, Streamlit UI, AWS EC2, Huggingface Spaces*

- Created a modular MCQ Generator using the OpenAI API, chatgpt-3.5-turbo model, Sequential Langchain, and Streamlit UI.
- Utilized advanced natural language processing capabilities to get user inputs and subject-specific data to generate multiple-choice questions (MCQs).
- Presented MCQs in a user-friendly table format via Streamlit UI and deployed the project on AWS EC2 for accessibility and scalability.

PERSONAL BLOG

www.decodeai.in | *JAM Stack, Jekyll, Cloudflare, Vercel, ImageKit.io, Umami Analytics, Giscus.app, Crisp* **Live**

- Regularly publish articles on machine learning, deep learning, and other technology-related topics.
- Provide valuable resources and insights to fellow tech enthusiasts and learners.

PUBLICATION

Fake Account Eliminator

March 2015

National Conference on Engineering Applications for Developing Smart Cities - NCEADS

- This software is designed to find and remove fake accounts on platforms like Facebook, Gmail, and Twitter in India.
- It uses the UIDAI (Unique Identification Authority of India) as a key part of its operation.
- India has many fake users on social media and email, so this tool helps to identify and eliminate them. It enforces a rule where each person can only have one account, reducing problems for real users and the public.

EDUCATION

Bachelor of Engineering in Computer Science

May 2016

Dhirajlal Gandhi College of Technology, Anna University

Salem, Tamilnadu