Manohar Palanisamy

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WORK EXPERIENCES

Senior Associate - Machine learning   Dec 2018 – Dec 2023
Sevasys Technologies   *Bangalore*

- Contributed to POC projects in Generative AI, implementing end-to-end solutions with OpenAI, Langchain, Gemini AI and Open source models like llama3.
- Collaborated cross-functionally to brainstorm, prototype, and iterate ML solutions, gaining practical experience in real-world applications.
- Integrated Gen AI models into existing systems, optimizing performance and scalability for production deployment.
- Contributed to team efforts in research and development, staying abreast of the latest advancements in generative AI technologies.

Executive Software Developer   Jan 2017 – Dec 2018
QuantumLink Communications Pvt Ltd   *Mumbai*

- Developed a research-based web application called FieldSense. This project involved creating a Salesforce tracking system to monitor salesperson activities.
- Responsible for handling feature enhancement and *bug* fixing related to our products which also included understanding the requirements and preparing design documents and Impact Analysis.
- Worked on an email system with full knowledge of network and email protocols, ensuring timely delivery and quality, all in line with the client's quality standards.

TECHNICAL SKILLS

Gen AI Frameworks: OpenAI, 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, Kubernetes, Huggingface Spaces, Vercel, CloudflareCDN

Cloud Platforms: AWS SageMaker, BedRock, AppRunner, EC2 and S3

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 [DRENBUK43NW8]   Dec 2021 – Jan 2022
IBM   *Coursera.org*

PROJECTS

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.

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

Image Classifier | *Python, FastAI , Render*   Live
- Developed an advanced image classifier using the ResNet50 neural network architecture from the Fastai deep learning library.
- Trained the model to classify images of Marvel Heroes into 12 distinct classes.
- Leveraged the powerful capabilities of Fastai for efficient training and model evaluation.
- Hosted the final trained model on Render, making it accessible via the web at https://project.decodeai.in

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*