AMOL PARDHI

AI ENGINEER

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Profile

4+ years of experience applying cutting-edge AI/ML solutions, skilled in Generative AI model with expertise in text generation, code creation, and data analysis. Proven ability to learn and adapt to new tasks, delivering creative and informative outputs., to solve complex business problems. Skilled in implementing machine learning using Python libraries to achieve significant results. Experienced collaborator adept at translating business goals into actionable data strategies. Expertise in data analysis, visualization, and model implementation positions me to contribute to the forefront of AI/ML at a progressive organization.

Work Experience

AI - Engineer at Ascendion Engineering **Aug 2024 - Present**

Software Engineer at Prodapt Solution **Nov 2022 – July 2024**

- Enhanced employee experience by designing and implementing a RAG-based chatbot that assists with company policies, inquiries, and more.
- Applied machine learning to develop predictive models: one for attrition prediction to help HR retain talent by identifying at-risk employees, and another for revenue forecasting to empower Sales with insights for optimized strategies.
- Collaborated seamlessly across teams to ensure smooth implementation and utilization of machine learning, generative AI solutions, driving business value.

Trainee Engineer at Taco Group **Nov 2019 to March 2022**

- Supported senior engineers by developing Python scripts to automate tasks and streamline development processes.
- Performed Exploratory Data Analysis (EDA) on various datasets to gain insights and prepare data for further analysis.
- Contributed to a Natural Language Processing (NLP) project by working on a text classification task using Python.

Technical Skills

Generative AI & Natural Language Processing (NLP)

- **Generative AI Techniques:** Prompt Injection, Prompt Engineering, RNN, LSTM, Transformers, Attention Mechanisms.
- **Generative AI Integration:** Large Language Models (LLM),fine-tuning, LLAMA2,Phi-2,Mistral, OpenAI's Ada, Davinci.
- **Vector Databases:** Chroma, Milvus, Pinecone, Faiss, Qdrant.
- **Chatbot Frameworks:** Langchain, Llama Index, Langchain Agent, Retrieval-Augmented Generation (RAG).
- **NLP Libraries:** NLTK, TensorFlow, TF-IDF, Bag-of-Words, tokenization, word embedding, huggingface.

Machine Learning, Predictive Modeling, and Deep Learning

- **ML Techniques:** Linear/Logistic Regression, KNN, Random Forest, AdaBoost algorithm, hyperparameter tuning, feature selection methods, supervised and unsupervised learning.
- **Data Analysis & Visualization**: Preprocessing, cleaning, and wrangling (Pandas, NumPy), Matplotlib, Seaborn, Plotly.
- **Data Processing**: Outlier detection, imputations, feature scaling, data imbalance handling, hypothesis testing.
- **Core Concepts**: Artificial Neural Networks, Convolutional Neural Networks.
- **Image Processing:** Data Augmentation, Image filtering, feature extraction, and object recognition

Programming & Development Tools

- **Programming: Python (Pandas**, NumPy, scikit-learn, Streamlit), Restful API design and integration, FastAPI, Flask.
- **Development Tools**: Jupyter Notebook, PyCharm, Visual Studio Code, MySQL, Git.

Projects

AI-Powered Employee Support Chatbot

- Developed and deployed a state-of-the-art conversational AI chatbot to enhance employee support and streamline communication within the organization.
- **Role and Contribution**: Led a cross-functional team of developers and collaborated with HR personnel to conceptualize, design, and implement the chatbot solution. Implemented LLM, NLP algorithms, designed conversation flows, and integrated the chatbot with company databases.
- **Approach and Methodology**: Leveraged a data-driven approach with the RAG framework to train the LLM on organization-specific datasets, enabling user-centric conversation flows for accurate and relevant responses.
- **Features and Capabilities:** The chatbot was designed with multimodal capabilities, allowing it to process and respond to queries from text, videos, and images. It handled over 80% of routine employee inquiries, allowing HR personnel to focus on strategic tasks.
- **Achievements and Outcomes:** Reduced employee query response time by 60%, resulting in improved operational efficiency.

Predictive Talent Retention Analysis

- Developed a machine learning model using K-Nearest Neighbors (KNN) algorithm to predict employee churn with 83% accuracy, helping identify employees at high risk of leaving the organization.
- Collaborated with HR to understand employee data and ensure its effective use in the model.
- Partnered with the data lake team to facilitate smooth data flow for model training and maintenance.
- Empowered HR with insights on high-risk employees, enabling them to take proactive retention measures.
- Contributed to a data-driven approach to employee retention within the organization.

Consumer Grievance Classifier Using NLP and Machine Learning

- The main goal of this project is to classify the complaint into a specific product category. Since it has multiple categories, it becomes a multiclass classification that can be solved through many of the machine learning algorithms.
- Once the algorithm is in place, whenever there is a new complaint, we can easily categorize it and can then be redirected to the concerned person. This will save a lot of time because we are minimizing the human interventions to decide whom this complaint should go to.
- Classify the product over a million of records and achieved an accuracy approx. 96 % using Multinominal Naïve Bayes Algorithm.

NextGen AI Assets

- Field off AI Object detection using Yolo v5s.
- Text/Voice Sentiment Analysis using OpenAI and Bert.
- Prodapt Helpdesk Ticket Automation using OpenAI.
- Employee Attritions using machine learning with Explainable AI.
- Talk to your Data.

Education

Dr. Babasaheb Ambedkar College of Engineering — 2016 – 2019
Bachelor of Engineering in Mechanical Engineering (CGPA -8.93) — Nagpur, India

Personal Details

- DOB: 03/06/1997
- Languages: Hindi, Marathi, English