Abhijeet Lokhande

AI Engineer

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Summary

Experienced AI & Software Engineer, skilled in developing innovative AI solutions, improving data accuracy and efficiency using LLM, Generative AI, NLP, Geospatial Data Science, Machine Learning and Deep Learning techniques. Strong Python development background and solid foundation in AI and data science from King's College London. Experienced in enhancing workflow efficiency through algorithmic improvements and optimization strategies.

Skills

- LLMs/Chatbots, Name Entity Recognition(NER), Natural Language Processing(NLP)
- Generative AI, Deep Learning, Geospatial Data Science
- PyTorch, TensorFlow, LangChain, Django, Flask, FastAPI, Numpy, Pandas, SciKit-Learn
- Python, C++, JavaScript, CUDA, R, Java
- MySQL, Postgres, MongoDB, MSSQL Server
- Data Manipulation, Modelling and Scripting
- Predictive Modelling, Financial Modeling, Feature Engineering, Time Series, Data Modelling, ETL Pipelines
- Linear Algebra, Probability Theory, Statistics and Optimization
- AWS, SQS, Sagemaker, GCP(Vertex AI), Conversational AI
- Docker, MLOPS, Git, Github Actions, CircleCI(CI/CD)
- Numerical Optimization, Distributed Computing, Retrieval Augmented Generation(RAG), Network Graphs, ArcGIS

Open Source Contribution

- Fine-tuned Bert(LLM) to detect Personally identifiable information(6000 Downloads on HuggingFace) (PII Model)

Work Experience

Applied AI Engineer *(Built AI)* **London, UK** *04/2022 - present*

- Enhanced the NLP model on the Built AI platform by integrating AWS Textract and implementing a custom integration algorithm, while also leveraging LLM. This combined effort resulted in a notable reduction in project creation time, cutting it from 55 minutes to just 30 minutes, thereby streamlining workflow efficiency.
- Developed a NLP model(Token Classification) to detect various components in UK addresses and implemented a robust data preprocessing pipeline. This initiative resulted in a significant 30% improvement in the link rate of London property databases, enhancing data accuracy and efficiency.
- Developed a 3D cosine kernel and utilized the time dimension in the data (Time Series Data) to enhance the existing machine learning algorithm. This led to a significant 60% reduction in rent per square foot error. Additionally, implemented the Leave One Out strategy to evaluate the error, ensuring robust performance improvements (Geospatial Data Science).
- Optimized the efficiency of the existing Python code powering the financial modeling engine by implementing Cythonization, Vectorization, and Distributed Computing techniques. This optimization effort resulted in a remarkable 70% reduction in execution time, significantly boosting the engine's performance and responsiveness.
- Streamlined the generation time of location intelligence maps by 40% through the optimization of the existing algorithm, specifically by enhancing its ability to handle Large Volume Data efficiently.
- Developed a web-based Q&A application(RAG) for investment brochure analysis, leveraging Large Language Models (LLMs), Vector Databases, Embedding techniques, and Streamlit, enabling users to upload multiple brochures and query the system for relevant information retrieval and natural language responses.
- Designed and deployed scalable AI models to drive commercial outcomes.

Research Associate *(King's College London)* **London, UK** *04/2021 - 01/2022*

- Developed a novel Deep Learning model utilizing Graph Convolution Network and Generative Adversarial Network (GAN) techniques for Drug Discovery, resulting in a 63% enhancement in the novelty score of drug structures.
- Designed and implemented a robust data preprocessing pipeline for clinical data, ensuring accuracy and completeness of the large volume of data.

Python Developer - Data Science *(Aspect Ratio)* **Pune, India** *02/2018 - 06/2020*

- Developed web-based forecasting model for more than 100 countries to predict patient progression and revenue of a drug.
- Developed a dashboard of polished visualizations to share results of data analyses.

Education

MSc Data Science *King's College London* **London, UK**

Relevant Courses: Machine Learning, Deep Learning, Data Analysis, NLP, Predictive Modelling.

Computer Engineering *University of Pune* **Pune, India**

Relevant Courses: Software Development, Python, Web Development, Microprocessor Architecture