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Mumbai IN

Linkedin Profile

Shivasish Mahapatra
Product Manager | Gen AI Expert

SUMMARY

Experienced Product specialist in Generative AI, Large Language Models (LLMs), Machine Learning, and Data Science technologies. Passionate about Python and SQL, with a strong focus on building and optimizing LLMs and generative AI models. Skilled in data analysis and continuously learning about the latest advancements in AI. Committed to devising innovative problem-solving methods for complex challenges and enthusiastic about adopting new technologies and tools. Determined to deliver results with excellent communication skills.

KEY SKILLS

• Machine Learning Methodologies • Data Science • Predictive Modelling & Analytics • Python Programming • Data Analysis • Technical Analysis • Python programming languages • Prompt Engineering Techniques • Complex Technical Concepts • Conceptual Approach Creation • Model Deployment • Business Requirements • Conduct research • Evaluation Metrics • Large-Scale Datasets • Data Privacy • Seamless Data Processing • Research • Stakeholder Management • Product Management • RAG • LLM Fine-tuning • Leadership & Training • Process Improvement • Team Incubation • Data Visualization • Team Coordination & Leadership • Communications & Planning • Collaborate with cross-functional teams • Proactive problem-solving • Drive cross-functional teams • Deliver projects on-time • Execute projects on-time • Azure • Databricks

TECHNICAL SKILLS

Languages - Python, SQL , GraphQL **Scripting -** Bash **Generative AI –** RAG , Fine-Tuning , LLM, GPT , BERT, LLAMA2, Mistral , Openai, Huggingface, Langchain, Langsmith **Vector Databases –** Pinecone, ChromaDB, FAISS, ObjectBox **Data processing -** Exploratory Data Analysis, Feature Engineering **Libraries -** numpy, pandas, scikit-learn, seaborn, matplotlib **Frameworks -** pytorch, tensorflow, langchain, FastAPI, Streamlit, RAGAs, LLamaIndex, MLFlow, DSPy **Machine Learning -** Linear Regression, Logistic Regression, Naive Bayes, Support Vector Machines, Decision Trees, Random Forests, AdaBoost, Gradient Boosting, XGBoost, **Deep Learning -** ANN, CNN, RNN, LSTM, GRU **Maths -** Statistics, Probability, Calculus, Hypothesis Testing, Linear Algebra **Natural Language Processing -** Lexical processing, Syntactic Processing, Semantic Processing, Question Answering, Sentiment Analysis, Text Summarisation, Transformers, LLMs

PROFESSIONAL EXPERIENCE

Machine Learning Engineer   Oct '24-Present
Exponantia AI.   Mumbai, IN

Product Manager || Team Lead

- Developed advanced Generative AI solutions under the **AIXponent** initiative, focusing on **Text-to-SQL, Retrieval-Augmented Generation (RAG), and Speech-to-Text (STT)** applications. Enhanced automated data retrieval and analysis capabilities, leading to a 35% increase in process efficiency for enterprise clients.
- Led a cross-functional team in the end-to-end development of AI-driven products, acting as a **Product Consultant** to ensure user experience alignment with client goals and optimize product-market fit. Provided **strategic guidance on AI implementation** to drive key business objectives.
- Utilized **LangChain and LlamaIndex** frameworks to improve model retrieval accuracy and domain-specific relevance in RAG systems, enabling 28% faster data-driven decision-making through the extraction of actionable insights.
- Applied advanced prompt engineering methodologies such as **Chains-of-Thought and Trees-of-Thought** with tools like **GPT-4, Llama, and Mistral**, reducing hallucination rates and boosting model efficiency by 20%, ensuring **accuracy and reliability in AI-generated responses**.
- Conducted **fine-tuning** of Generative AI models tailored to client-specific use cases, optimizing for industry demands and achieving a 25% improvement in model relevance and user satisfaction.
- Leveraged cross-cultural communication skills to manage diverse teams and spearhead **international business development** initiatives, enhancing global visibility for Exponentia AI and executing effective AI technology strategies for global clientele.

Associate Data Scientist

Blenheim Chalcot India Pvt Ltd.

May '23-Oct '24

Mumbai, IN

AI Product Manager & Gen AI Developer

- Developed Interactive AI Products by integrating multiple Large Language Models with APIs, creating user-centric tools such as a **Virtual Call Agent for NHS UK, In-house Document Summarization & QA tools, a Prompt Injection Defense Model**, and a range of Application Models for Ed-Tech clients like **British Council** and **Avado**. These implementations led to a 30% increase in user engagement, a 25% boost in operational efficiency, and enhanced customer satisfaction.
- Utilized **LangChain and LlamaIndex** frameworks to expand LLM capabilities for **Retrieval-Augmented Generation (RAG)**. Applied domain-specific expertise to analyze textual data within **vector databases**, uncovering valuable patterns, trends, and actionable insights, achieving a 30% improvement in efficiency.
- Employed advanced **prompt engineering strategies** like **MedPrompt**, alongside **Chains-of-Thought and Trees-of-Thought** techniques, leveraging tools such as **GPT-4, Gemini, Llama, and Mistral**. This approach reduced hallucinations and enhanced model efficiency by 25%.
- Conducted LLM **Fine-Tuning** to optimize accuracy and relevance, tailoring models to meet specific industry requirements. This process significantly improved model performance and reliability.
- Led cross-cultural team operations and executed technology implementations for global clients during **onsite work in London**. This experience contributed to business development initiatives, expanded the global network and visibility, and honed cross-cultural communication skills.

Operations Analyst Apprentice

Allcargo Logistics Pvt Ltd.

Jun '22-Jul '22

Mundra, IN

Business Operations Analyst

- Synthesized profound industry insights within the **shipping & logistics domain**, infusing cutting-edge trends, obstacles, & optimum methodologies to drive strategic initiatives
- Executed market expansion initiatives & crafted new **product development strategies** based on insights gathered from **SWOT analysis, customer surveys, & competitor benchmarking** for enhanced strategic decision-making & operational efficiencies
- Spearheaded operational initiatives to optimize processes, improve **inventory management**, & streamline supply chain logistics, resulting in a 25% increase in operational efficiency
- Demonstrated hands-on expertise in **import/export processes**, managing documentation, **customs clearance**, & freight forwarding to ensure streamlined operations & achieving a 20% increase in cost savings & a 25% enhancement in freight forwarding efficiency
- Researched tailored marketing practices for the logistics sector, employing SWOT analysis, competitor benchmarking, & **customer feedback analysis** to uncover new revenue streams
- Improved efficiency in documentation procedures for bill of lading, invoices, & customs documentation, resulting in a 30% reductionin processing time
- Acquired knowledge of customs regulations in shipping operations to ensure smooth operations & regulatory compliance

PROJECTS

AIXponent Product

Developed an AI Knowledge Management Solution for Enterprises, utilizing cutting-edge AI technologies to enhance user interaction and support.

- Enterprise Knowledge Management: Deployed AIXponent to enable efficient knowledge **retrieval, summarization**, and AI-driven insights within organizational workflows.
- Secure Cloud Integration: Implemented secure private cloud deployment via **Azure and Databricks**, ensuring **high data security** and scalable access
- Enhanced Productivity & Decision-Making: Utilized intuitive chat, search, and **API functionalities** to streamline information access and support data-driven decisions.
- Flexible API Integrations: Supported **cross-platform compatibility**, enhancing organizational **knowledge sharing** and improving team collaboration.

AI Virtual Call Agent - NHS UK

Developed a Virtual AI Content Agent for the NHS government, utilizing cutting-edge AI technologies to enhance user interaction and support.

- Utilized OpenAI's **GPT-4o** to enhance natural language understanding & generation, resulting in a 20% increase in efficiency
- Implemented Retrieval-Augmented Generation (RAG) to merge document retrieval with language generation, enhancing response accuracy & **retrieval efficiency**
- Integrated real-time Speech-to-Text (STT) technology with the **Wisper Model** for seamless conversion of spoken language into text, enhancing user interaction efficiency
- Enhanced user accessibility & experience by incorporating **Text-to-Speech (TTS) technology using Elevenlabs**, resulting in significantly increased user engagement & improved interaction

Prompt Injection Defence Model For LLM

Developed a prompt injection defence model for all BC-UK portfolios to enhance **cyber security measures** & protect LLM models from cyber attacks
- Enhanced efficiency & security by **95% through text processing & analysis** using HuggingFace & constitutional chains
- Designed & implemented a sophisticated security model to strengthen the LLM against **prompt injection attacks**, enhancing security measures through precise calibration & integration of defensive strategies like multi-factor authentication
- Boosted uptime by 20% by enhancing the model's resilience & implementing a secure operational framework with **proper architecture** to validate user input before transmission to LLM

CERTIFICATIONS

- **Generative AI with Large Language Models** | DeepLearning.AI & AWS
- **Supervised Machine Learning: Regression and Classification**| Stanford Online
- **Building And Evaluating Advance RAG |** RedTeams

EDUCATION

B.Tech Computer Science and Engineering(Data Science (ML&AI)) Aug '20-Mar '24

Lovely professional University & Upgrad Jalandhar, IN

CGPA : 7.5

Higher Secondery School Jun '19-May '20

St. Xaviers High School Berhampur, IN

CGPA : 8.0