KEVIN PATEL

kevin18patel@gmail.com • (517) 505 9591 • LinkedIn • Portfolio

Experienced Data Scientist with a strong background in Generative AI, machine learning, data analysis, and software development. Proficient in business insights Analysis, data-driven decision-making, and developing scalable applications. Skilled in gathering, cleaning, and analyzing large datasets, building predictive models, and leveraging statistical analysis for complex business problems. Capable of integrating machine learning solutions into production environments, with a track record of automating data workflows and deploying AI models that improve business outcomes. Expertise in cloud computing, ML-Ops, and DevOps practices.

WORK EXPERIENCE

Machine Learning Engineer

Global Mobility Services, IL, USA *Aug 2024 – Current*

- Analyzed business data (e.g., revenue, market trends) to derive actionable insights, optimizing sales strategies and customer engagement.
- Developed a Gemini-based multi-agent chatbot integrated with MySQL database for structured query retrieval and RAG for FAQ responses. Optimized Chain of Thought (CoT) prompting for better user interactions and accuracy.
- Designed and developed a robust forecasting model to predict market demand over the next six months, enabling more accurate inventory and resource planning.
- Leveraged machine learning and ensemble techniques to enhance prediction accuracy, leading to a 30% improvement in forecasting precision.
- Conducted extensive hyperparameter tuning and implemented A/B testing strategies to optimize model performance, ensuring reliable and data-driven decision-making.

Software and Data Expert

VERN.ai, MI, USA *May 2024 – Oct 2024*

- Working on integrating the VERN emotion detection model with the conversation bot to observe user sentiment over the period and re-route their flow of conversation according to it. Engineered flow to collect user data and store it at backend.
- Fine-tuned LLMs like LLaMA to personalize user interactions, increasing user satisfaction through adaptive responses.
- Designed and implemented a real-time data ingestion system using AWS Kinesis Data Streams. Developed AWS Lambda functions to process and transform streaming data. Stored processed data in Amazon S3 and loaded it into Amazon Redshift for analysis. Created ETL jobs with AWS Glue to transform and catalog data. Built interactive dashboards and visualizations with AWS QuickSight to provide insights from the data.

Data Scientist Capstone Researcher

Siemens (Michigan State University), USA *Jan 2024 – Apr 2024*

- Aimed at enhancing design pattern parameter predictions for engineering teams in multi-objective optimization problems.
- Worked on modeling for predicting Features of Perito-fronts (2 objective functions) by optimizing IGT-loss for ZTD-1 dataset using inverse-DNN, Mixture Gaussian Network, Etc.
- Developed predictive modeling solutions using inverse DNN to enhance design pattern parameter predictions for engineering teams.

- Optimized feature generation to improve success rates by customizing IGT loss function, preventing a potential loss worth $220K.

Data Scientist Capstone Scholar

Westlake Chemicals (Michigan State University), USA *Aug 2023 – Jan 2024*

- Constructed Potential Client Profiling and segmentation pipeline using Large Language Models.
- Creating 3 different types of customer profiles using LLM by using Naïve LLM, Retrieval-Augmented Generation (RAG) architecture, and Knowledge Graph, which is used to identify potential clients using K-means, DB-Scan, Neural networks.
- Applied Retrieval-Augmented Generation (RAG) architecture to create a knowledge graph for customer insights, improving the efficiency of client targeting.

Data Scientist

India Meteorological Department (IMD), India *Jul 2021 – Aug 2022*

- Developed AI-powered weather forecasting models using LSTM, GRU, and ARIMA, increasing forecast accuracy by 20%.
- Enhanced data analysis through dimensionality reduction, feature extraction & interpolation. Achieved a 20% accuracy boost in Central India's weather forecasting while executing LSTM, GRU, ARIMA.
- Implemented Unsupervised Approach for clustering scattered cloud data by k-means, DB-scan, k-medoid. Improved clustering accuracy by 51% using a new approach of Deep Clustering for Multi-level Image Segmentation
- Worked on NER model. Boosted the Named Entity Recognition model for biomedical entities by an average of 5% F1 Score per entity and improved the multi-label Relation Classification model by 4.2% Micro F1 Score. Achieved 78.4% Macro F1 Score on a three-class Sentiment Analysis model and 55% precision on LDA-based topic model for Life Sciences forums and blogs data

TECHNICAL SKILLS

- **Programming language:** Python, R, SQL, Java, Scala, JavaScript, MATLAB, C
- **Machine Learning & AI:** Supervised & Unsupervised Learning, Deep Learning (TensorFlow, PyTorch, Keras, LangChain), NLP, Computer Vision
- **Data Engineering:** SQL, MongoDB, PostgreSQL, Databricks, PySpark
- **Cloud & DevOps:** AWS, Azure, Docker, Git, CI/CD
- **APIs & Tools:** RESTful API Design, LLM Integration, Microservices Architecture
- **Operating Systems:** Linux, Windows, Command-line Scripting

EDUCATION

Master of Science in Data Science| Michigan State University **GPA: 4.0/4.0**

- Hourly Energy Demand Forecasting: Built a PySpark ETL pipeline for real-time energy demand analysis. Applied statistical modeling (SARIMAX, Facebook Prophet, GRU) achieving an R2 of 0.83.
- Image Caption Generator: Developed a deep learning model using CNNs (ResNet50, InceptionResNetv2, DenseNet201), achieving 87% accuracy.
- Relation Extraction Model: Enhanced entity extraction accuracy by 4.2% using CNN-based feature fusion architecture.

Bachelor in Computer Engineering | Pandit Deendayal Energy University **GPA: 9.59/10**

- Created "Song playlist Generation system using OpenCV and Deep Learning(CNN)" and published it (Research-Paper)