Sidhant Chanana

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Education

University of Maryland, College-Park May. 2025
Master of Science in Applied Machine Learning *GPA: 3.65/4.0*

Vellore Institute of Technology, Vellore April 2019
Bachelor of Technology, Mechanical Engineering *GPA: 3.5/4.0*

About Me

Machine Learning Engineer with 5 years of industry experience and a graduate degree in Applied ML. Skilled in building robust ML pipelines for both GenAI (RAG-based code generation and summarization) and traditional ML (RNN forecasting in biomechanics). Experience in deploying churn prediction and recommendation models on AWS SageMaker.

Experience

Dynamics and Control Lab UMD *Machine Learning Engineer* Feb. 2024 – Present
- Developed forecasting models using RNNs for automating a biomedical device used for rehabilitation in stroke patients.
- Developed a multi-step predictive model for weight and torque in drilling processes, employing Higher Order SVD and Gaussian Process Regression, which optimized material selection.
- Preprocessed digital signal data to analyze gait patterns and cluster them using k-nearest neighbor algorithm.
- Generated synthetic time series data using GANS for dataset augmentation.

Godfrey Phillips India Ltd. *Data Scientist* Aug. 2021 – Apr. 2023
- Multivariate Time Series forecasting using ARIMA and SARIMA. Time series classification and clustering done for brand wise material procurement planning.
- Sales analytics and region clustering using k-means and DBSCAN for optimizing merchandising.
- Deployed ETL pipeline for extracting SQL queried data and create sequential tensors for forecasting using sequence neural networks like LSTMs.

Godfrey Phillips India Ltd. *Operations Analytics* Jan. 2020 – Aug. 2021
- Production Planning and control, supply chain and operation analytics and dashboard creation for procurement and inventory management.

Projects

Image Captioning model — *RNN, Transformers, Attention models, PyTorch, Keras, CUDA*
- Developed an image captioning model utilizing a Transformer-based architecture, to generate descriptive captions for images. Processed visual data by dividing images into patches, enabling the model to effectively learn and generate corresponding textual descriptions.

GitSummarizer — *RAG, Text Embedding, Ollama, Huggingface, LLMs, Syntax Tree*
- Engineered a Retrieval-Augmented Generation (RAG) system leveraging OpenAI embeddings and LLMs to enable natural language querying of GitHub codebases, achieving context-aware code understanding through parse tree analysis. Used AST for object-aware code parsing and tokenization and Pinecone for scalable vector search.

Skills

Languages and Version control: Python, R, C++, MATLAB, Linux CLI, Git
Cloud & ML platforms: AWS SageMaker, Snowflake, Azure, GCP
Libraries/Frameworks: scikit-learn, TensorFlow, PyTorch, Keras, Pandas, NumPy, Seaborn, FastAPI, MLFlow, Docker, Kubernetes, SQL, PostgreSQL, MongoDB, NoSQL, MySQL
Specialized Skills: GenAI (RAG), NLP, Computer Vision, Time-series analysis, Statistical Analysis, A/B Testing, Market Value Algorithms, MLOps, Power BI, Tableau, Deep Learning, CNN, RNN, Data Retrieval, Langchain, Vertex