

Shimona Manjunath

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Data Scientist | Machine Learning Engineer | Senior Software Engineer

WORK EXPERIENCE

Outlier AI

Vancouver, BC, Canada

Data Scientist

March 2024 - Now

Prompt Engineering - RLHF for LLMs on Data Science prompts

- Collaborate with organizations to enhance and advance large language models on Data Science prompts - data exploration, data cleaning, insightful visualization, and modelling ML algorithms
- Deliver human-readable summaries and explanations on data science problem-solving methodologies, enriching the learning process of AI models

Professionally Active Break

Vancouver, BC, Canada

Data Scientist

February 2022 - March 2024

Took an intentional pause to relocate to Canada

- **AWS Cloud Practitioner Certification:** Enhanced cloud expertise with AWS Cloud Practitioner certification; learning to deploy models with AWS Sagemaker
- **MLOps:** Attained MLOps Specialization from DeepLearning.ai, aligning with industry practices to design ML production system, project scoping, data requirements, modelling strategies, and deployment strategies; addressing concept, model drift, to improve a production ML application using Tensorflow Extended TFX, Google Colab, Vertex AI
- **NLP Specialization:** Completed an intensive NLP course from DeepLearning.ai, mastering advanced techniques such as Logistic Regression, Naïve Bayes and word vectors; to implement sentiment analysis, named entity recognition and machine translation
- **Recommender Systems:** Completed Recommender Systems by Frank Kane, honing proficiency in constructing impactful modern recommendation algorithms with neural collaborative filtering, content based filtering, and Deep Learning based recommenders
- **Fraud Detection:** Developed XGBoost algorithm to detect fraudulent credit card transactions in a real-world (anonymized) dataset of European credit card transactions; with improved prediction accuracy up to 96%
- **LLM Multimodal Search:** Designed a multimodal Retrieval-Augmented Generation (RAG) recommender system, leveraging LLMs for contextual search and insights, using vector database Weviate

Eliassen Group

Charlotte, North Carolina

Data Scientist

January 2020 - January 2022

Developed and scaled ML models for optimization of renewable energy and business efficiency for **Duke Energy**

- Led scoping of Solar Energy project with multiple stakeholders; to minimize revenue loss and operational costs from a solar plant from extensive exploratory data analysis and statistical analysis on Solar panel data
- Developed deep learning models XGBoost, CNN to classify daily energy production within 92% accuracy; leveraging Jupyter Notebooks, AWS Sagemaker, Bitbucket
- Developed an algorithm to describe % amount of soiling accumulated on solar panels; to effectively strategize manual solar panel cleaning; reducing and optimizing associated costs
- Deployed ML solutions to AWS by collaborating with cross functional stakeholders, enabling seamless scalability across solar energy sites
- Increased Daily Active Users and customer engagement by 12%, through statistical analysis and A/B testing of ML Product webpage
- Delivered actionable insights and Power BI dashboards for Duke Energy fleet and local metro bus electrification, enabling data-driven decision-making on impact for Grid engineering and management teams
- Collaborated with cross functional teams to develop, maintain and monitor ML and data pipelines, serving scaled ML solution on AWS

Sensorscall

Atlanta, Georgia

Data Scientist

April 2019 - January 2020

Collaborated cross-functionally to integrate ML solutions into real-time IoT monitoring systems

- Built anomaly detection models using SVM and LSTM to monitor IoT devices, achieving 86% accuracy
- Improved activity detection by 15% through Time-Series modelling

Wipro Technologies Ltd

Bangalore, India

Senior Software Engineer and Data Analyst

August 2009 - August 2015

Developed software for **Credit Suisse - Private Banking and Investments**

- Led and managed end to end project for new tax laws implemented and updates to existing laws from design, building test documents and developing software, and integration testing in PL1, COBOL and Python
- Improved system architecture by reducing data redundancies, optimizing database writes by 29%

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Data Scientist | Machine Learning Engineer | Senior Software Engineer

- Implemented data processes and documentation methodologies for streamlined software development
- Analyzed and developed visualizations of end-to-end data flow and performed validation for system integrity
- Evaluated and recommended products to Private Banking customers using statistical analysis on client investment patterns
- Facilitated comprehensive stakeholder reviews at the end of each phase of software development, fostering collaborative discussions to gather feedback
- Led test environment data set up with real time data and backup at offshore location, allowing end to end integration testing at offshore environment
- Led the development of visualization dashboards using Tableau, enabling senior executives to monitor KPIs
- Acquired A1 German language fluency to reconfigure existing software script embedded with German words and rewrote codes; completing the retrofitting project in 4 months
- Mentored team members and facilitated stakeholder collaboration, ensuring timely delivery of high-impact projects

CERTIFICATIONS

AWS Cloud Practitioner Certification 2023
NLP Specialization (DeepLearning.ai) 2023
Recommender Systems Course (Frank Kane) 2023
MLOps Specialization (DeepLearning.ai) 2024
Generative AI with Large Language Models (DeepLearning.ai) 2024
Building Multimodal Search and RAG (DeepLearning.ai) 2024

EDUCATION

Georgia State University	Atlanta, Georgia
Master of Science (MS) - Computer Science	May 2019
Birla Institute of Technology	Pilani, India
Master of Science (MS) - Software Engineering	Dec 2013

SKILLS & INTERESTS

Languages	: Python, SQL, C, Javascript, PL1, Cobol, PySpark
Databases	: MySQL, MongoDB, JSON, PostgreSQL, Hive, DB2, SQL Server, DynamoDB, Athena, Glue, Redshift, Elasticsearch, Cassandra, BigQuery, Redis, XML
Machine Learning	: Statistical Modeling, Bayesian Analysis, A/B Testing, Predictive Analysis, Regression, Decision Trees, Random Forests, Gradient Boosting, SVM, KMeans, Clustering, Classification, ANN, CNN, RNN, GAN, GNN, RBM, GRU, NLP, NER, Time Series, Ensemble Methods, MLOps, GenAI, Recommender Systems, Reinforcement Learning, LLMs, Casual Inference, RAG, RLHF, Transformers, Graph Theory
Skills	: Agile Software Development, Project Management, Project Scoping, Project Design, Data Mining, Statistical Analysis, Statistical Modeling, Data Visualization, Model Monitoring, ETL, CI/CD, Business Intelligence, Process Optimization, System Analysis, Risk Management Machine Learning, Deep Learning, Model Performance Analysis, Data Analytics, Data Wrangling
BI & Tools	: Power BI, Tableau, Jira, Miro, Git, Bitbucket, Confluence, Google Analytics, GCP
AWS Services	: EC2, Lambda, Batch, S3, RDS, Athena, Dynamo DB, Aurora, Glue, Redshift, StepFunctions, CloudWatch, Cloud9, SageMaker, Kinesis, ECR, EKS, SNS, SQS
Frameworks	: Pandas, NumPy, Matplotlib, Keras, SciPy, Scikit-Learn, PyTorch, TensorFlow, TFX, Spacy, NLTK, OpenCV, Streamlit, Statsmodels, Flask, MLFlow, Airflow, Apache Spark, Docker, Django, Flask, Kubernetes, Hadoop, HuggingFace, OpenAI, BERT, Weviate
Interests	: Computer Vision, MLOps, LLMs, GenAI, Cybersecurity