# Akshay Paralikar

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## Education

**New York University**, New York **GPA 4.0** | Sep 2023 - May 2025
Master of Science, Electrical Engineering.
*Relevant Coursework: Deep Learning, Advanced Machine Learning, Advanced Python for Data Science, High Performance ML*

**Veermata Jijabai Technological Institute**, Mumbai, India **GPA 8.11/10** | Aug 2016 - Sep 2020
Bachelor of Technology, Electronics and Telecommunication Engineering

## Technical Skills

**Programming:** Python, R, C, C++, SQL, PySpark, Hadoop, MATLAB, Numpy, Pandas, Scikit-Learn, PyTorch, TensorFlow, CUDA
**Data Analytics:** SVM, k-means, XGBoost, Hypothesis Testing, A/B Testing, Large Language Modeling, Time Series Analysis
**Software Tools:** Azure Databricks, Azure Data Factory, Microsoft Excel, GitHub, PowerBI, Tableau, Grafana, Hive, RDBMS

## Experience

**Sensor Engineer: *Floodnet,*** New York City, United States Apr 2024 - Present
- Created a comprehensive NYC-wide flood sensor health monitoring system for time series data analysis for 200+ IoT flood sensors for a $7 million city-wide flood sensing initiative. Reduced downtime by 30%
- Devised filters and machine learning models for noise filtering and accurate flood detection improving accuracy by 6%
- Collaborated with cross-disciplinary teams and contributed to product roadmaps for system enhancements

**Data Science Consultant: *Fractal Analytics*,** Mumbai, India Sep 2020 - Jul 2023
- Employed advanced analytics on big data with Python and PySpark on Azure Databricks improving performance by 5%
- Designed ETL pipelines on Azure Data Factory for complete data processing from Ingestion to Reporting resulting in a 15% utilizing Cloud Computing for reduction in overall processing time and enhancing reliability
- Delivered simulation and optimization tools for the client and devised pricing strategies for business results

## Projects

**Continual Learning for Autonomous Vehicles: *New York University.*** Jan 2024 - May 2024
- Developed a continual learning system for autonomous vehicle steering control using lifelong learning techniques
- Formulated a novel method of Temporal Consistency Regulation with a balanced buffer to enhance prediction accuracy along with smoothness of drive reducing mean square error by 18% while also reducing memory used by 25%
- Implemented VisualBackProp to visualize the important features from the image that are utilized in predictions

**Multimodal Sentiment Analysis: *New York University.*** Feb 2024 - May 2024
- Designed and evaluated transformer fusion models for multimodal sentiment analysis, combining visual, audio, and text data to derive data insights from large datasets
- Obtained a 75% accuracy on the CMU-MOSI dataset using a Multimodal Transformer (MulT) model
- Conducted a comparative analysis of model performance across different fusion stages and hyperparameters

**Complete Market Solution for Fast Moving Consumer Goods: *Fractal Analytics.*** Nov 2022 - Jul 2023
- Built Machine Learning models for calculating the effects of Innovation of new products into the market, demand transference due to delisting of products, and renovation of products with more than 70% accuracy
- Predicted annual sales of products using Random Forest Regression and Natural Language Processing with 84% accuracy
- Combined with the pricing tool to create interactive dashboards, simulators, and optimizers to visualize the model outputs and calculate forecasts giving product recommendations enabling fact-based decision making

**ROI calculation based on Bayesian Belief networks: *Fractal Analytics.*** Jun 2021 - Dec 2021
- Computed feature impact of different variables like Price, Discount, Advertising, and Seasonality on the sales of products, ascertaining which parameters, directly and indirectly, affect sales using Bayesian Belief Network modeling in R
- Utilized model coefficients to calculate the Return on Investment (ROI) for the advertisement media using statistical methods
- Built multiple tools for investment optimization resulting in a 7% increase in ROI

## Honors and Certifications

Star Award - Eureka category for developing an innovative solution, *Fractal Analytics* *Aug 2022*
Microsoft Certified: Azure Data Engineer Associate May 2021
Winner AI Hackathon, *Symbiosis Institute of Technology, Pune* Sep 2019