Karishma Majeethalikhan

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EDUCATION

Illinois Institute of Technology, Chicago, IL May 2025
Master of Computer Science
Coursework: Machine Learning, Big Data Technologies, Information Retrieval, Advanced Database Organization, Computer Networks,

Saranathan College of Engineering, Trichy, India
Bachelor of Engineering in Computer Science and Engineering May 2023
Coursework: Data Structures and Algorithms, OS, Web Technologies, C , Java, Python, Cloud Computing, Data Mining

WORK EXPERIENCE

Data Analyst Intern | Excelerate Jun 2023 - Jul 2023
- Increased revenue by 15% by developing Power BI dashboards to identify high-performing products and remove underperforming ones.
- Automated data reporting, reducing manual efforts by 30%, ensuring accuracy and consistency across sources for real-time decisions.
- Partnered with senior stakeholders across marketing, finance, and operations to deliver actionable insights, resulting in a 20% improvement in project completion rates through enhanced decision-making capabilities.

Data Science and Business Analytics Intern | The Sparks Foundation Mar 2022 - Sep 2022
- Analyzed IPL data using advanced statistical methods and machine learning models, uncovering key performance indicators that modified team strategies and revised match predictions by 30%, leading to better player selection.
- Developed a stock market forecasting model with 75% accuracy, leveraging deep learning techniques, historical trends, and sentiment analysis to boost investment decision-making for financial analysts and traders, revamping risk assessment.
- Crafted interactive Power BI dashboards, strengthened stakeholder engagement, accelerating project execution by 15% and increasing cross-functional collaboration across departments, enabling data-driven strategic planning.

Data Science Intern | LetsGrowMore Sep 2021 - Feb 2022
- Investigated over 10,000 data points in terrorism datasets, uncovering hidden trends and behavioral patterns informed national counter-terrorism strategies, strengthened intelligence operations, and enhanced security protocols.
- Refined decision tree models, attaining 90% classification accuracy, optimizing predictive modeling for risk assessment in high-stakes environments, improving threat detection and reducing false positives in security systems.
- Interpreted complex datasets and translated findings into actionable insights, leading to a 20% improvement in decision-making accuracy for counter-terrorism policies, risk mitigation strategies, and law enforcement preparedness.

PROJECTS

Multimodal Fusion for ECG Heartbeat Classification *(Python | TensorFlow | Keras | PyTS | AlexNet | Deep Learning)*
- Built a robust multimodal fusion framework using Gramian Angular Field (GAF), Markov Transition Field (MTF), and Recurrence Plot (RP), achieving 98% classification accuracy in ECG heartbeat classification for early cardiac diagnosis.
- Designed and deployed two classification pipelines (MIF & MFF) utilizing AlexNet and Gated Fusion Network (GFN) to optimize feature extraction, improving model interpretability, computational efficiency, and real-world applicability in medical diagnostics.
- Processed and balanced 14,552 ECG recordings from the PTB Diagnostic ECG Database, refining model generalization through advanced preprocessing techniques, performance tuning, and feature enhancement strategies.

AI-Powered Sales Forecasting Platform *(FastAPI | Render | XGBoost | LSTM | Databricks | AWS Glue | Amazon S3)*
- Engineered, deployed, and maintained a real-time AI-powered sales forecasting API using FastAPI on Render, ensuring seamless integration for predictive analytics in retail and enterprise sales forecasting systems.
- Optimized and fine-tuned machine learning models (XGBoost & LSTM) in Databricks, achieving a 20% improvement in prediction accuracy through advanced feature engineering, hyperparameter tuning, and extensive model evaluation.
- Processed and transformed large-scale sales data using AWS Glue and Databricks, applying time series transformations such as lag features, moving averages, and seasonal adjustments to enhance forecasting efficiency and minimize latency.

Facial Recognition for Contactless Payment *(OpenCV | Flask | Stripe | Computer Vision | Python)*
- Implemented an AI-driven facial recognition payment system, cutting transaction times by 30% and enhancing checkout speed.
- Integrated Stripe's API, accelerating payment processing by 3 seconds and boosting customer retention by 15% through seamless, secure, and efficient transaction handling, reducing checkout abandonment rates.
- Deployed and refined the system for real-world applications, aligning with business goals and improving user experience by streamlining end-to-end payment workflows, increasing overall transaction efficiency by 20%.

SKILLS

Languages: Python, Java, C, SQL
Databases: MySQL, Oracle, Snowflake
Web Technologies: HTML5, CSS3, JavaScript, PHP, REST API
Frameworks: NumPy, Pandas, OpenCV, Keras, TensorFlow, PyTorch, Scikit-learn, Seaborn, Matplotlib, Flask, FastAPI
Tools: Git, Postman, Android Studio, Vim, Power BI, Databricks, Jupyter Notebook, Stripe API
Deployment: AWS (EC2, S3, EMR, Glue, SageMaker, Lambda), GCP, Render, Netlify