

Kirthana Lakshmana Perumal

kirthana.lakshmana@gmail.com | (716)-617-1236 | LinkedIn [↗](#) | Github [↗](#)

Experience

Data Scientist

June 2024 – Present

Fifth Third Bank — Cincinnati, OH

- Engineered transaction-level fraud detection models achieving 92% accuracy in identifying emerging fraud patterns, enabling dynamic risk threshold adjustments that saved \$500K in losses through enhanced detection strategies while maintaining optimal customer experience.
- Partnered with cross-functional to automate customer data scraping and verification workflows during a global Mastercard outage, enabling the team to unblock 50K+ accounts and cut downtime by 35%.
- Led end-to-end migration of 60+ fraud monitoring dashboards serving 15+ stakeholders across Risk, Operations, and Product teams, ensuring zero downtime during transition to new BI platform.

Associate Data Scientist

Jan 2021 – Jul 2022

Accenture — Bangalore, India

- Developed predictive analytics solutions to optimize inventory allocation and implement dynamic pricing strategies, achieving a 25% reduction in overstock costs and a 15% increase in gross margins through A/B testing and robust ETL pipelines.
- Automated SAP procurement workflows by introducing data validation and exception-handling logic, which reduced manual intervention and improved efficiency by 20%.
- Collaborated with global teams to perform bug validation, regression testing, and root-cause analysis, delivering analytics solutions closely aligned with critical business decision-making.

Machine Learning Intern

Jan 2020 – May 2020

Healthcare Technology Innovation Centre — Chennai, India

- Implemented a novel method for fetal diagnosis using ultrasound images, achieving 96% accuracy on head circumference prediction with the Deformable U-Net model, and enhanced ellipse detection by fine-tuning Hough Transform parameters for improved accuracy and precision.

Education

State University of New York at Buffalo

Aug 2022 – Jan 2024

Master of Science, Computer Science (AI Specialization)

Relevant Courses: Machine Learning, Data Intensive Computing & Reinforcement Learning

SRM Institute of Science & Technology

Aug 2016 – Jun 2020

B.Tech, Computer Science & Engineering

Relevant Courses: Big Data Analysis, Natural Language Processing, Database Management Systems

Technical Skills

Certifications: AWS Cloud Certified Practitioner; LangChain for LLM Application Development

Analytics: PyTorch, TensorFlow, Keras, Scikit-Learn, NLTK, Matplotlib, Seaborn.

Languages & Web: Python, SAS, SQL, Javascript.

Tools: AWS Redshift, AWS S3, Docker, PySpark, Git/Github, VS Code, Jupyter Notebook.

Projects

Real-Time Emotion Recognition [↗](#) | *Python, Pytorch, OpenCV*

- Implemented real-time facial emotion recognition using ResNet, EfficientNet, and MobileNet on FER2013 (35k+ images); integrated model with OpenCV to detect and classify emotions via webcam.
- Improved test accuracy from 48% to 61% by addressing data imbalance and overfitting through augmentation tuning, optimizer swaps (SGD to Adam), and learning rate scheduling.

Credit Score Prediction & Analysis | *PySpark, Hadoop*

- Built and deployed a distributed ML pipeline using XGBoost on PySpark/Hadoop to process 20K+ financial records in parallel, achieving 90% accuracy with sub-second latency for real-time decisioning through optimized data ingestion and scalable, fault-tolerant cluster processing.