

RAGURAJA KRISHNAN NATARAJAN MANGALESHWARAN

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EDUCATION

State University of New York (SUNY), Binghamton – M.S. Information Systems (Applied Data Science) | Expected May 2026 | GPA 3.33/4.00

Relevant Coursework: Applied Data Mining, Python & Data Mining, Tools for Data Science, AI-Driven Decision Support, Data Analytics for Security

Vellore Institute of Technology (VIT), Bangalore – PG Program in Data Science | June 2024 | GPA 3.72/4.00

Relevant Coursework: Machine Learning, Deep Learning, Data Mining, Probability & Statistics, Big Data Analytics

Sri Ramachandra Faculty of Engineering & Technology – B.Sc. Data Science | July 2023 | GPA 3.06/4.00

Relevant Coursework: Data Structures & Algorithms, AI & Machine Learning, Database Management Systems, Python Programming

TECHNICAL SKILLS

Deep Learning: TensorFlow, PyTorch, Keras, CNN, RNN, LSTM, GAN, Transformer Models, Meta-Learning, Imitation Learning

ML & Data Mining: Scikit-learn, XGBoost, LightGBM, K-Means, DBSCAN, Random Forest, Ensemble Methods, Feature Engineering

Computer Vision: OpenCV, YOLO, MediaPipe, PIL, Image Classification, Object Detection, PennyLane, Qiskit

Languages: Python, R, SQL

Data & Visualization: Pandas, NumPy, SciPy, Matplotlib, Seaborn, Plotly, Power BI, Tableau, Jupyter, Streamlit

Infrastructure & Tools: AWS (SageMaker, EC2, S3), Docker, Kubernetes, MLflow, Airflow, Kafka, Git, FastAPI, Flask

PROFESSIONAL EXPERIENCE

Data Analyst, Indian Orthocare Surgicals (Stryker Distributor) | Chennai, India | Oct 2023 – Dec 2023

- Built classification models using Scikit-learn and XGBoost to automate quality inspections, improving prediction accuracy by 27%.
- Designed Power BI dashboards integrating sales and inventory data from SQL Server, adopted by 3 regional managers within 2 weeks.
- Wrote ETL pipelines in Python and SQL to validate 140K+ records, cutting report generation from 4 hours to 22 minutes.

Data Scientist, Nokia Solutions and Networks | Chennai, India | May 2023 – Jul 2023

- Trained YOLO v3 object detection model with TensorFlow on manufacturing video, achieving 92% precision at 30 FPS inference.
- Deployed deep learning models on Azure IoT Edge for real-time defect detection, reducing cloud latency to under 200ms per frame.
- Set up MLflow experiment tracking and CI/CD pipelines with Azure DevOps, cutting deployment cycles from 3 days to 4 hours.

Data Analyst, Rankraze Technologies | Chennai, India | Apr 2022 – Jun 2022

- Grew client organic traffic by 18% by building Plotly Dash dashboards aggregating 50+ metrics from REST APIs in real time.
- Automated 140+ weekly data audits across 10K+ URLs with BeautifulSoup and Selenium, saving 6 hours of manual work per week.
- Created interactive Streamlit dashboards for client reporting, presenting data-driven findings to non-technical account managers.

PROJECT EXPERIENCE

Blood Group Detection Using Image Processing | Python, TensorFlow, PennyLane, Qiskit, OpenCV | Jan 2025 – Mar 2025

- Built an 8-class CNN classifier detecting blood groups from fingerprint images, achieving 94.2% accuracy on 4,000+ samples.
- Implemented hybrid quantum-classical models in PennyLane and Qiskit, gaining 3.5% accuracy over the classical CNN baseline.
- Applied augmentation (rotation, scaling, noise, elastic deformation), improving generalization 12% with dropout and batch norm.
- Ran exploratory data analysis on class distribution and pixel intensity histograms, guiding preprocessing pipeline design choices.

Predictive Maintenance for Metro Train APUs | Python, Scikit-learn, TensorFlow, Power BI, SQL | Nov 2023 – Jan 2024

- Engineered 45+ features (rolling stats, lag values, frequency-domain transforms) from 1.5M+ time-stamped metro sensor records.
- Trained Random Forest, XGBoost, and LSTM ensemble achieving 91.3% failure prediction accuracy (89% precision, 93% recall).
- Built Power BI dashboards with time-series anomaly detection, giving maintenance crews 72-hour advance failure warnings.
- Documented model architecture, hyperparameter tuning results, and evaluation metrics in a 10-page technical research report.

Airline Passenger Satisfaction Analysis | Python, Tableau, Excel, Scikit-learn, K-Means | Sep 2023 – Oct 2023

- Cleaned and preprocessed 120K+ airline passenger records in Pandas and Excel, encoding 23 service attributes for analysis.
- Created interactive Tableau dashboards visualizing delay patterns and satisfaction trends with demographic drill-downs.
- Applied K-Means clustering with silhouette analysis to segment passengers into 4 groups, identifying 3 areas for improvement.
- Presented findings to a faculty panel with visualizations comparing cluster profiles across loyalty tier and flight distance.

PUBLICATIONS & CERTIFICATIONS

Wireless Power Transfer-based Charger for E-Skate Scooter | IEEE iTech SECOM 2025

- Presented research on simulation-based numerical modeling and data analysis for inductive coupling efficiency optimization.
- Oracle Cloud:** OCI 2025 Data Science Professional, Generative AI Professional (ID: OC7549659)
- IBM:** Advanced RAG with Vector Databases, Build RAG Applications, Develop Generative AI Applications
- Vanderbilt University:** Agentic AI and AI Agents: A Primer for Leaders
- Google Cloud:** Data Analytics & Prompt Design in Vertex AI
- FreeCodeCamp:** Data Analysis with Python, Machine Learning with Python
- Coursera:** Business Analysis, Financial Analytics