Achyut Sridhar Kulkarni

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Data Scientist who applies advanced statistical modeling, machine learning, and data storytelling to uncover insights and deliver predictive solutions with measurable business outcomes. Skilled in developing scalable models, performing rigorous analysis, and collaborating with cross-functional teams to turn data into actionable strategy, driving informed decision-making.

PROFESSIONAL EXPERIENCE

Data Scientist, DBA Jorts *August 2025 - Present*

- Built data infrastructure with Neo4j for graph relationships, MongoDB for chat, and AWS S3 for media storage.
- Designed graph models mapping friendships and invitations, enabling event discovery and boosting engagement 28%.
- Optimized MongoDB queries to support high-volume chat, cutting latency and improving reliability for active users.
- Developed pipelines connecting app data to Power BI and Plotly dashboards, reducing reporting cycles from 2 weeks to 4 days.
- Embedded predictive models with product teams, lowering churn in pilot markets 15% and increasing event attendance.
- Managed backend services in Python and FastAPI to maintain database integrations, ensuring scalability and system uptime.

Data Scientist, Megh Computing *August 2020 - March 2023*

- Architected acceleration paths with TensorRT and OpenVINO, slashing inference latency 40 percent for edge analytics.
- Elevated anomaly detection 25 percent by refining YOLOv5 and Faster R CNN with calibrated thresholds.
- Spearheaded deployments on AWS and GCP across edge and cloud, lifting efficiency 30 percent under bandwidth limits.
- Scaled throughput 60 percent using FPGA and GPU parallelism and batched IO for heavy video streams.
- Orchestrated adoption of VAS interfaces, trimming partner integration timelines 35 percent and simplifying delivery.
- Instituted CI/CD benchmarking and drift checks, halving debugging cycles and hardening production reliability.
- Shipped domain tuned video analytics for smart cities, retail, and finance aligned to client KPIs.
- Authored playbooks and training that shortened the new hire ramp by about four weeks and increased team velocity.
- Codified latency and accuracy targets into quality gates and dashboards to drive release decisions.

TECHNICAL SKILLS

- **Programming:** Python (pandas, scikit-learn, TensorFlow, PyTorch, NLTK, SpaCy), R, SQL, PySpark, Java, C++, C
- **Machine Learning & Modeling:** Predictive Modeling, Classification, Regression, Anomaly Detection, Time Series Forecasting, Statistical Process Control, Model Evaluation (BLEU, Perplexity), Hyperparameter Tuning
- **Data Science & Analytics:** Exploratory Data Analysis (EDA), A/B Testing, Statistical Analysis (ANOVA, Chi-Square), Feature Engineering, Data Storytelling, Experimental Design
- **Cloud & DevOps:** AWS (EC2, S3, SageMaker), GCP, Docker, CI/CD, Git, Databricks, Snowflake
- **Data Engineering & Databases:** ETL/ELT, Data Modeling, Airflow, Apache Spark, Performance Optimization, Large-Scale Data Processing, PostgreSQL, MySQL, MongoDB, Redis
- **Data Visualization & Reporting:** Power BI, Tableau, ArcGIS, ArcGIS StoryMaps, JMP Pro, Dashboards, Reporting Automation
- **Natural Language Processing:** Text Classification, TF-IDF, Sentiment Analysis, Transformers

EDUCATION

- **Master of Science in Data Science,** Rochester Institute of Technology *August 2023 - May 2025*
- **Bachelor of Engineering in Information Science and Engineering**, BNM Institute of Technology *August 2016 - August 2020*

PROJECTS

Autonomous Vehicle Safety (Explainable AI) | *Python, OpenCV, TensorFlow, CRAFT, TCAV* - Link
Collaborators: Toyota Research Institute, University of Florida, University of California Irvine

- Developed explainable AI pipelines using CRAFT and TCAV to interpret object detection in AVs, analyzing over 10,000 images.
- Reduced false positive braking events by 31%, improving model transparency for real-time safety-critical decisions.
- Boosted pedestrian detection accuracy by 18%, supporting safer AV navigation across urban driving simulations.

Statistical Analysis of Online Sales Data | *Python, Pandas, SciPy, ANOVA, Chi-Square* - Link

- Analyzed over 1.2M transaction records using statistical methods to uncover purchase trends by region, product type, and users.
- Identified key factors influencing sales conversions, leading to a 15% improvement in pricing strategy accuracy and ROI.
- Delivered executive dashboards summarizing insights, used by leadership to inform quarterly marketing and inventory plans.

Marketing Strategy Optimization (GIS + Data Viz) | *ArcGIS, StoryMap, Python, Data Visualization* - Link

- Mapped and analyzed customer engagement data in 5 marketing zones, identifying underperforming areas with a 25% lower ROI.
- Implemented spatial targeting strategies that increased regional customer engagement by 30% and marketing ROI by 18%.
- Created interactive visualizations using ArcGIS StoryMap to present findings to stakeholders, improving planning efficiency.

Job Posting Classification | *Python, Scikit-learn* - Link

- Built a binary classification model using TF-IDF and logistic regression to detect fraudulent job posts with 75% accuracy.
- Reduced manual review overhead by 60%, enabling scalable fraud detection across thousands of listings.
- Improved platform integrity and user trust by flagging high-risk listings based on learned linguistic and structural patterns.

ACCOMPLISHMENTS

- **Winner – SCB Business Analytics Competition 2025:** Selected Claude 3 as RIT's AI platform after benchmarking GPT-4 and Mistral across cost, performance, privacy, and fairness, securing first place.
- **Published Research – Application to Detect Skin Cancer using CNN (IJLTET, 2020):** Built an 82% accurate MobileNet-based melanoma detection model validated against dermatological benchmarks - Link
- **Certifications – Oracle Cloud Infrastructure AI (2025):** OCI Generative AI Professional, OCI AI Foundations Associate, OCI AI Vector Search Professional and OCI AI Data Science Professional.