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, Jorts app *August 2025 - Present*

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

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

- Architected acceleration paths with TensorRT and OpenVINO, cutting inference latency 40% for edge analytics.
- Scaled throughput 60% with FPGA/GPU parallelism, sustaining performance for high-volume video streams.
- Spearheaded AWS/GCP edge-cloud deployments, lifting efficiency 30% in bandwidth-limited environments.
- Advanced Megh's video analytics by refining ML models, boosting detection accuracy 25% for real-time threat identification.
- Instituted CI/CD benchmarking and drift checks, halving debugging cycles and hardening production reliability.

Machine Learning Engineer Intern, ThoughtClan Technologies January 2020 - February 2020

- Orchestrated development of a cross-platform virtual assistant using Python and CNN-based NLP models for intent classification.
- Integrated speech recognition, gTTS, and NLTK, enabling speech-to-text, response generation, and knowledge retrieval.
- Reduced 50% of manual query handling by delivering accurate, real-time responses through intent detection.

TECHNICAL SKILLS

- **Programming:** Python (pandas, scikit-learn, PyTorch, TensorFlow), R, SQL, PySpark
- **Machine Learning & GenAI:** Predictive Modeling, Classification, Regression, Time Series Forecasting, Model Explainability (SHAP, LIME), LLM Integration (Hugging Face, OpenAI, LangChain), Prompt Engineering
- **Statistical Analysis:** Hypothesis Testing, A/B Testing, ANOVA, Causal Inference, Experimental Design
- **Data Engineering & Databases:** Apache Spark, Airflow, Databricks, Snowflake, PostgreSQL, MongoDB
- **Cloud & MLOps:** AWS (SageMaker, EC2, S3), GCP (BigQuery, Vertex AI), Docker, MLflow, CI/CD
- **Data Visualization & Reporting:** Power BI, Tableau, Plotly, ArcGIS StoryMaps, Data Storytelling

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:** Championed the selection of Claude 3 as RIT's AI platform by benchmarking GPT-4 and Mistral across cost, performance, privacy, and fairness, achieving top-ranking results.
- **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.