Achyut Sridhar Kulkarni

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Data Scientist with an M.S. in Data Science from RIT and 3 years of experience using statistical methods, machine learning, and cloud analytics to deliver insights and impact across security, retail, and healthcare. Skilled in A/B testing, hypothesis-driven analysis, and data storytelling through dashboards and reports.

PROFESSIONAL EXPERIENCE

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

- Reduced AI inference latency by 40% by optimizing data pipelines using TensorRT and OpenVINO, enhancing real-time surveillance.
- Improved anomaly detection accuracy by 25% through fine tuning YOLOv5 and Faster R-CNN, facilitating quicker threat detection.
- Enhanced deployment efficiency by 30% by engineering cloud-edge AI solutions on AWS and GCP, reducing operational overhead in bandwidth sensitive environments.
- Increased system throughput by 60% via FPGA/GPU accelerated model pipelines, ensuring consistent performance for video feeds.
- Enabled clients to embed custom AI capabilities seamlessly by decreasing integration time by 35% by leading Megh's VAS.
- Streamlined post-deployment monitoring by automating CI/CD driven benchmarking pipelines, cutting debugging cycles by 50%.
- Delivered tailored AI solutions across retail, finance, and smart city sectors, aligning deployments with sector specific KPIs.
- Led technical onboarding processes, establishing knowledge transfer frameworks that reduced new hire ramp up time.

Data Science Intern - NLP Focus, ThoughtClan technologies **January 2019 – February 2019**

- Developed conversational AI modules to enhance interaction with virtual assistants, optimizing dialogue flow using custom pipelines.
- Refined classification models and training data to boost natural language understanding, increasing response accuracy by 35%.
- Contributed to real-time AI responsiveness by preprocessing data and tuning models, supporting faster query resolution by 40%.

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, LLM Integration (CodeGen2), Transformers

EDUCATION

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

PROJECTS

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

- Developed interpretable XAI pipelines using CRAFT and TCAV to explain CNN object detection models in AVs, analyzing over 100,000 frames of dashcam video.
- Reduced false positive braking by 18% through model transparency and saliency-driven debugging, improving real-time decision.

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

- Analyzed 6 months of e-commerce transaction data using regression, ANOVA, and chi-square testing to identify statistically significant revenue drivers.
- Uncovered pricing and seasonal trends that improved forecast accuracy by 22%, supporting data-driven marketing strategies.

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

- Processed geo-tagged campaign data from 12 regions and created StoryMap visualizations highlighting high-engagement clusters and market gaps.
- Integrated KPI dashboards with campaign databases for continuous performance tracking and executive-level reporting.

ACCOMPLISHMENTS

Winner – SCB Business Analytics Competition 2025

- Recommended Claude 3 as RIT's AI platform by evaluating LLMs (Claude 3, GPT-4, Mistral) across 7 strategic benchmarks, including cost, performance, privacy, and fairness.
- Led technical analysis and stakeholder alignment, resulting in a first-place win for presenting a scalable, compliant AI roadmap tailored to higher education.

Published Research: *Application to Detect Skin Cancer using CNN* | **IJLTET, 2020**— Link to Paper

- Achieved 82% classification accuracy by developing and training a MobileNet based deep learning model for melanoma detection, leveraging dermoscopic image datasets to assist early clinical diagnosis.
- Demonstrated real-world applicability by validating the model's performance against dermatological benchmarks.