Achyut Sridhar Kulkarni
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EDUCATION

- **Rochester Institute of Technology**, Rochester, NY — **Expected May 2025**
  Master of Science in Data Science — GPA: 3.89/4.0
- **BNM Institute of Technology,** Bangalore, India — **August 2016 – August 2020**
  Bachelor of Engineering in Information Science and Engineering — GPA: 3.38/4.0

TECHNICAL SKILLS

- **Languages & scripting:** Python, R, Java, C++, C, SQL, PySpark, Bash
- **Data Science & analytics tools:** Statistical Analysis, Regression, ANOVA, Chi-Square, Time Series, A/B Testing, EDA, Data Visualization, ArcGIS, ArcGIS StoryMaps, Tableau, Power BI, JMP pro
- **NLP & text analytics:** SpaCy, NLTK, TextBlob, TF-IDF, Sentiment Analysis, Classification Models
- **Cloud & databses:** AWS (EC2, S3, SageMaker), GCP, Docker, CI/CD, Git, Databricks, MongoDB, MySQL, PostgreSQL, Redis
- **Data engineering:** ETL/ELT Pipelines, Data Modeling, Airflow, Performance Optimization, Apache Spark

PROFESSIONAL EXPERIENCE

Data Scientist — **Megh Computing,** India — **August 2020 – March 2023**

- Accelerated AI model inference by 40% using TensorRT and model quantization, enabling faster real time object detection for enterprise security systems.
- Improved detection accuracy by 25% by fine-tuning YOLOv5 and Faster RCNN architectures, enhancing anomaly detection capabilities for clients in high security environments.
- Cut bandwidth usage by 40% by deploying AI at the edge using AWS/GCP and FPGA accelerated video pipelines, allowing smarter, low latency decisions on-site.
- Boosted inference throughput by 60% by optimizing OpenVINO and TensorRT based models for GPU/FPGA deployment, directly improving system responsiveness under load.
- Reduced client integration time by 35% by designing and launching a custom C++/Python SDK for Megh's Video Analytics Suite (VAS), streamlining product adoption across sectors.
- Decreased debugging effort by 50% through automated CI/CD pipelines and performance benchmarking, ensuring robust deployments at scale.
- Delivered customized AI solutions across retail, smart city, and finance sectors by aligning model outputs with domain specific requirements, improving deployment success rates.
- Led end-to-end client deployments, coordinating with cross functional teams to ensure seamless on-site integration with existing security infrastructure.
- Mentored new team members, driving faster onboarding and sustaining long term productivity within the engineering team.

NLP Intern — **ThoughtClan Technologies,** India — **January 2019** – **February 2019**

- Developed a conversational AI engine using TensorFlow and Python, improving virtual assistant response quality and interaction.
- Enhanced NLU components and intent classification models, streamlining real time query handling and boosting task resolution.
- Built robust data preprocessing pipeline to support training and fine tuning of chatbot models, improving accuracy during deployment.

PROJECTS

Autonomous Vehicle Safety (Explainable AI) | *Python, OpenCV, TensorFlow, CRAFT, TCAV*

- Developed XAI pipelines using CRAFT and TCAV to interpret object detection models in autonomous vehicles.
- Reduced false positive braking events by providing model transparency, improving safety critical decisions in real world driving.
- Enhanced pedestrian detection and classification accuracy, contributing to safer and more reliable AV navigation systems.

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

- Applied regression, ANOVA, and chi-square tests to identify significant sales trends and customer behavior patterns.
- Delivered actionable insights that supported data driven marketing and pricing decisions, leading to improved revenue forecasting.

Job Posting Classification using NLP | *Python, Scikit-learn, NLP*

- Designed and trained a natural language processing model to classify job listings as genuine or fraudulent, achieving 75% accuracy.
- Helped reduce exposure to scams and improved user trust on job platforms by automating fraud detection at scale.

Code Review Optimization | *Python, Neural Networks, NLP*

- Built a neural network model to classify commit messages for code refactoring detection, achieving 95.7% accuracy.
- Reduced manual review effort in engineering pipelines, increasing productivity and consistency in code quality control.

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

- Transformed raw marketing data into spatial insights using StoryMap, identifying high engagement zones and campaign gaps.
- Drove improved customer targeting and regional strategy optimization, directly increasing marketing ROI and engagement rates.