Achyut Sridhar Kulkarni
+15853036007 | achyutsridharkulkarni@gmail.com
http://www.linkedin.com/in/achyutsk | https://www.github.com/AchyutKulkarni

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 & Tools:** Python, SQL, R, PySpark, Java, C++, Docker, Git, Microsoft Office Suite, ESRI software
- **Cloud & Big Data:** AWS, Databricks, Airflow, MongoDB, MySQL
- **Data Engineering:** ETL/ELT Pipelines, Data Modeling, Performance Optimization, Spatial Analysis
- **Machine Learning & Analytics:** Predictive Modeling, Regression, Time Series Analysis, NLP, Geospatial Data Analysis, Statistical Analysis, Interactive and Static Mapping, Digital Maps, ESRI StoryMaps

PROFESSIONAL EXPERIENCE

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

AI-Powered Security & Surveillance | TensorRT, OpenVINO, YOLOv5, Faster RCNN, Edge AI

- Optimized deep learning models for real-time security applications, reducing inference latency by 40% using TensorRT quantization and optimization techniques.
- Enhanced object detection accuracy by 25% by fine-tuning YOLOv5 and Faster RCNN models, ensuring improved anomaly detection in surveillance environments.
- Integrated AI-powered security systems into enterprise solutions, increasing anomaly detection precision by 30% and enabling faster threat identification.

Cloud Edge AI Deployment | AWS, GCP, FPGAs, Edge Computing, Video Analytics

- Developed and deployed scalable AI solutions on AWS/GCP, enhancing model deployment efficiency by 30% for cloud-edge AI applications.
- Reduced bandwidth usage by 40% through edge computing strategies, optimizing real-time video processing at client sites.
- Accelerated inference throughput by 60% by optimizing TensorRT/OpenVINO models for GPUs and FPGAs, improving computational efficiency.

Megh VAS SDK Development | SDKs, C++, Python, DeepStream, AI Model Integration

- Led the development of Megh's Video Analytics SDK, reducing AI model integration time by 35% for enterprise clients.
- Engineered customized AI solutions for retail, smart cities, and finance sectors, improving the deployment success rate for security applications.

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

- Developed and integrated conversational AI components, improving user interaction for virtual assistant.
- Enhanced natural language understanding and machine learning models to streamline communication.
- Utilized TensorFlow and Python to train models for AI driven tasks and optimize responses.
- Assisted in data collection and preprocessing, refining the assistant's accuracy in real time problem solving.

PROJECTS

Marketing Strategy Optimization | ArcGIS, StoryMap, Python, Data Visualization (URL)

- Developed interactive ArcGIS StoryMaps, visualizing spatial marketing data and significantly enhancing customer engagement through data-driven insights, resulting in improved targeted marketing strategies.
- Performed spatial analysis to identify optimal market segments, directly contributing to a measurable increase in customer interaction and engagement metrics.
- Utilized Python for in-depth data visualization and analytics, enabling precise and actionable marketing decisions, resulting in elevated customer retention and increased campaign effectiveness.

Autonomous Vehicle Safety (XAI) | Python, OpenCV, TensorFlow, XAI

- Implemented spatial analysis-based Explainable AI (XAI) methodologies including CRAFT and TCAV, significantly improving object detection reliability in autonomous vehicles and enhancing road safety through precise spatial decision-making.
- Optimized models for accurate human detection by leveraging spatial image classification, leading to a measurable reduction in unnecessary braking incidents and improved autonomous navigation efficiency.
- Conducted comprehensive analysis of spatial model outputs, clearly communicating findings through interactive visualizations and static maps to stakeholders, resulting in enhanced understanding of safety-critical AI decisions.

Statistical Analysis of Online Sales | Python, Pandas, SciPy, Regression, ANOVA, Chi square

- Executed statistical analyses such as regression, ANOVA, and Chi-square tests on extensive sales datasets, uncovering significant insights that directly informed spatial distribution strategies and improved sales outcomes.
- Identified key spatial patterns influencing sales performance, guiding strategic decision-making that led to measurable revenue growth through targeted geographical marketing.