Aakash Suryavanshi

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EDUCATION

Georgia Institute of Technology   Atlanta, GA
Master of Science in Computer Science   *2025 – 2027*

Georgia Institute of Technology   Atlanta, GA
Bachelor of Science in Computer Science   *2022 – 2025*

TECHNICAL SKILLS

Relevant Coursework: Artificial Intelligence, Machine Learning, Data Structures, Algorithms, Computer Vision, NLP
Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, Assembly, Swift, C#, R
Data Analysis: Pandas, NumPy, Scikit-learn, PyTorch, Matplotlib, Excel
Data Visualization: Tableau, Power BI, Matplotlib
Databases: MySQL, PostgreSQL, SQLite
Tools: Git, Docker, VS Code, AWS, Conda

EXPERIENCE

Undergraduate Research | *Georgia Institute of Technology, Atlanta, GA*   January 2024 – Present
- Ranked Top 4 globally in the eleven million dollar XPRIZE Wildfire competition by analyzing aerial sensor data and developing predictive models to optimize wildfire detection strategies, processing over 50,000 data points from flight operations
- Built machine learning fire detection models using PyTorch and OpenCV that analyzed real-time video streams, achieving 92% detection accuracy and reducing false positive rates by 35% through statistical validation and model tuning
- Developed data processing pipelines to convert GPS coordinates and telemetry data into actionable insights, analyzing movement patterns from 10,000+ data points per minute to optimize flight path efficiency by 28%
- Created automated data collection workflows that integrated multiple sensor inputs, enabling real-time analysis of environmental conditions and fire progression patterns to inform strategic decision-making

PROJECTS

Stock Market Investment Timing Analysis | *SQL, Excel, Tableau*   July 2025
- Analyzed 22 years of S&P 500 data (5,700+ trading days) to evaluate investment timing, identifying 3 optimal entry points that resulted in a 15% higher ROI compared to the traditional buy-and-hold strategy
- Built SQL pipelines to automate data processing, reducing data extraction time by 30% and accelerating investment strategy analysis
- Expedited investment decisions by employing mean and median statistics when validating trading algorithms, mitigating market volatility and guaranteeing reliable conclusions across diverse economic climates between 1993-2020.
- Built interactive Tableau dashboards to visualize investment timing patterns, leading to a 10% increase in investor engagement on the platform

Capital One Personal Finance Analysis | *SQL, Tableau, Excel*   June 2025
- Designed an end-to-end analytics pipeline that processed 4 months of transaction data, reducing manual data extraction time by 40%, and generating key insights into spending habits and budget optimization
- Designed SQL queries using CTEs, window functions, and temporal analysis to analyze massive-scale spending patterns and identify optimization opportunities across multiple dimensions
- Created dynamic Tableau dashboards that empowered users to uncover spending patterns, leading to a 15% improvement in budgeting accuracy for users who adopted the recommendations
- Extracted insights from unstructured financial data, enabling targeted recommendations that helped users reduce discretionary spending by 20%

Nutrition Analysis & Visualization Dashboard | *Python, Pandas, SQL, Tableau, Excel*   July 2025
- Designed and executed an ETL pipeline in Python to integrate 5 disparate nutrition datasets (8,000+ food items) into a unified database, reducing manual data preparation time by 60% and automating data cleaning processes for 35+ attributes
- Implemented complex SQL analytics with JOIN operations, subqueries, and statistical functions to create weighted nutritional scoring algorithms, enabling multi-dimensional food comparisons across protein, fiber, and micronutrient content
- Built interactive Tableau dashboards with dynamic filtering and drill-down functionality, allowing users to analyze nutritional data across 10+ categories and increasing user engagement with health recommendations by 25%
- Delivered data-driven recommendations through comprehensive analysis of 8,000+ food records, creating automated classification systems that identified 15 key nutritional patterns to support dietary decision-making