

Aaryan Shah

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EDUCATION

Purdue University – West Lafayette, IN

May 2027

*Bachelor of Science, Dual Degrees in Computer Science AND Business Analytics and Information Management
Certificate in Applications in Data Science AND Certificate in Entrepreneurship and Innovation*

Relevant Coursework: Discrete Mathematics, Python, Data Mining, C Programming, Data Structures and Algorithms, R Programming, Computer Architecture, Object Oriented Programming, Bash, Statistical Methods, Management and Information Systems, Management Science

PROFESSIONAL EXPERIENCE

3M – Remote

January 2026 – Present

Project Manager/Scrum Master

- Lead a cross-functional Agile team to deliver a GLIMS-integrated machine utilization and inventory management system, supporting 100+ weathering machines and 35K+ samples annually, enabling data-driven lab planning and throughput optimization and reducing lab downtime.
- Drive development of a SQL + Python backend and interactive dashboard to automate machine allocation and forecast consumable demand using runtime and lifecycle data, reducing manual workflows and inventory risk.

Bendix Commercial Vehicle Systems – Avon, OH

May 2025 – December 2025

Artificial Intelligence Co-op

- Delivered an end-to-end process automation with cross-team impact, reducing manual email processing time by 80%, cutting per-document costs by 95% (from \$1.30 to \$0.07), and halving manual workload by replacing a vendor tool with a custom in-house solution.
- Designed a web-based intelligence system using Selenium and BeautifulSoup to aggregate industry news on commercial vehicle brakes, integrating Ollama for LLM-based summarization and delivering insights to support market trend analysis and strategic decision-making.
- Automated extraction and transformation of 4000+ global 8D reports, building Python web scrapers, PDF/image-merging pipelines, and Copilot-based LLM processors that cut manual review time by ~90% and accelerated root-cause analysis for Quality and Engineering teams.
- Built AI-powered assistants, like LLM-based ticket intelligence agent, processing hundreds of IT tickets helping cut manual effort by ~60%.

CERIAS x CAT – West Lafayette, IN

January 2025 – May 2025

Binary Security Research Assistant | Binary Hardening and Vulnerability Mitigation

- Strengthened system resilience using binary exploitation and vulnerability mitigation using Ghidra, Patchex2, Dockerized PHP environments.
- Identified and patched CVEs through manual reverse engineering, static and dynamic analysis, and heap overflow diagnostics.
- Reproduced exploits on 32-bit and 64-bit architectures, leveraged AddressSanitizer and GDB for root-cause tracing, and implemented source-level fixes with secure memory allocation strategies.

AgRPA – West Lafayette, IN

May 2024 – December 2024

Data Scientist | AI and Data Fusion for Plant Protection

- Built geospatial analytics pipeline using Python, PostgreSQL/PostGIS, and drone-collected shapefiles to model weed distribution, herbicide usage, and historical weather data for precision agriculture.
- Created Tableau dashboards with spatial analysis to visualize weed distribution and optimize herbicide usage for precision agriculture.

Cisco – Remote

January 2024 - May 2024

Data Scientist | Mix Forecasting (2-stage hierarchical Demand Forecasts)

- Improved forecasting accuracy by 25% through development and optimization of hierarchical predictive models (XG-Boost & RandomForest), achieving 90% accuracy at platform level and 70% at product level (PLID).
- Designed scalable forecasting solution combining multivariate and univariate ML algorithms in 2-stage hierarchical model, reducing forecast error and informing inventory management decisions.
- Presented insights to stakeholders through a Python dashboard, turning complex analyses into actionable recommendations.

PROJECTS

Cardfolio

- Founded and developing an iOS app in SwiftUI that digitizes business cards using Apple Vision OCR, LLM-based entity parsing, and image quality analysis (brightness/sharpness detection) to prompt users to retake unclear photos.
- Designed Cardfolio as a scalable product, integrating Supabase for secure storage and iOS contact export while delivering a polished user experience with image preview, data validation, and searchable contact lists.

Long Short-Term Memory (LSTM) Neural Network for Stock Prediction

- Developed a LSTM recurrent neural network to forecast future share prices, achieving a test RMSE of 5.92 and minimizing test loss to 0.3%.
- Built a robust data pipeline using Pandas and Scikit-learn to ingest and normalize 13 years (2010–2023) of historical OHLCV market data, implementing a 20-day lookback window for temporal feature engineering.

LEADERSHIP & INVOLVEMENT

Purdue Computer Science – Teaching Assistant (CS 193: Tools): Mentored 900+ students on Unix/Linux, GitHub, and technical fundamentals, improving course completion rates. | **University Residences Global** – Peer Educator: Guided international students on academic and cultural integration. | **Student Managed Investment Fund** – Analyst: Analyzed market trends and contributed to portfolio management decisions.

SKILLS AND INTERESTS

Skills: Data Analysis, Research, Leadership, Communication, Teamwork | **Programming Languages:** C, Java, R, Python, SQL, HTML, Bash, Scala, Julia | **Tools:** Git, GitHub, Docker, Microsoft Office, OpenAI, Linux, Jira, Power Automate, Power Apps, Snowflake | **Data Analysis and Modelling:** Pandas, Matplotlib, Desmos, Tableau, PyTorch, TensorFlow, Power BI, Scikit-learn, Azure, Hugging Face

LICENSURE AND CERTIFICATIONS

IBM - Machine Learning with Python | Great Learning - Java Programming | Udemy - Data Science: Deep Learning & Neural Networks in Python