Zain Ghazanfar

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Education

Georgia Institute of Technology Expected Dec 2026
B.S. in Computer Science; Minors in Financial Technology & Business Leadership *Atlanta, GA*
Courses: Machine Learning, Design & Analysis of Algorithms, DSA, Object-Oriented Principles, Intro to AI, Computer Systems & Networks
Awards: Zell Miller Scholarship, Faculty Honors, Dean's List | *GPA*: 3.94/4.0

Experience

Software Engineer Intern – Research Systems June 2025 – Aug 2025
Arrowstreet Capital *Boston, MA*
- Designed, automated, and maintained distributed compute infrastructure for large-scale quant research, enabling high-throughput data processing and scalable model experimentation
- Optimized workflow orchestration and resource allocation for 1000+ node HPC clusters using Prefect, Python, and custom scheduling logic, reducing job latency and improving system reliability
- Developed robust access-control, provisioning, and monitoring automation for research compute environments, streamlining onboarding and minimizing downtime for mission-critical workloads
- Collaborated with quant researchers and infrastructure teams to deliver scalable, fault-tolerant systems for data-driven research and simulation

Machine Learning Engineer & Co-Founder Jan 2024 – Present
Zaphor Solutions *Alpharetta, GA*
- Engineered ML-powered automation systems for inventory tracking, sales trend analysis, and dynamic pricing optimization across 70+ SKUs, scaling business revenue to over $200K
- Developed and deployed time series forecasting models (ARIMA, Prophet) and demand prediction algorithms to automate inventory management and reorder logic, maintaining a 95% in-stock rate
- Implemented reinforcement learning and data-driven strategies for pricing and ad optimization, improving conversion rates and reducing costs across multiple product listings

Machine Learning Research Intern Jul 2024 – Present
Georgia Institute of Technology, ACT Lab *Atlanta, GA*
- Built and optimized deep and reinforcement learning models (CNN, DQN, GAIL, Transformers) in PyTorch for trajectory planning and behavioral prediction in autonomous driving, achieving measurable improvements in simulation
- Led a subteam in refining model architectures, conducting ablation studies, and quantitatively evaluating performance for behavioral cloning and control tasks
- Automated high-fidelity training and evaluation pipelines using CARLA simulator, enabling scalable experimentation and robust data collection

Software Engineer Consultant Dec 2022 – May 2024
Endor Media
- Developed scalable AI-powered automation scripts using Python and OpenAI APIs for lead scoring, NLP-based email classification, and predictive analytics, streamlining client acquisition workflows
- Built LLM-driven tools for automated client outreach and personalized communication, increasing qualified lead conversion by 18%
- Designed and deployed real-time data dashboards by integrating GoHighLevel APIs with custom frontend components, enabling actionable insights for sales and marketing teams

Applied Data Science Researcher Jan 2023 – May 2023
Georgia Institute of Technology, SMART Lab *Atlanta, GA*
- Built Jupyter-based Python scripts to automate statistical analysis and modeling of switching dynamics in PZT thin films, improving research efficiency
- Developed custom data visualization tools using Matplotlib and Seaborn to effectively display experimental findings, trends, and model predictions
- Implemented GIWAXS dataframes and pandas to classify, preprocess, and analyze large-scale research datasets, enabling advanced feature extraction and predictive modeling

Awards and Achievements

Eagle Scout Jun 2023
National Merit Semifinalist Sep 2022

Skills

Languages: Python, C++, C, Java, PostgreSQL, JavaScript, TypeScript, R, Go, Swift, Assembly, HTML/CSS, LaTeX
extbfFrameworks & Tools: NumPy, Pandas, scikit-learn, TensorFlow, PyTorch, Jupyter, Prefect, Docker, Kubernetes, AWS, Bash, Git, GitLab CI/CD, FastAPI, Flask, OpenCV, Async, Node.js, React
extbfConcepts: Distributed Computing, High Performance Computing, Time Series Analysis, Backtesting, Market Data Processing, Predictive Modeling, Reinforcement Learning, Statistical Analysis, Data Pipelining, Containerization, Cloud Infrastructure, Concurrency
Soft Skills: Problem Solving, Communication, Collaboration, Leadership, Adaptability, Initiative, Agile Methodology