Taha Shafaqat | U.S. Citizen
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https://tahashafaqat.com/ | Github

Education:
University of Washington – Expected June 2027
B.S. in Computer Science & Software Engineering | B.S. in Economics | GPA: 3.77

Work Experience:

Digitalization Project Lead & Data Engineer, The House of Wisdom
Lynnwood, Washington June 2025-October 2025.

- **Led a team of 8** in the development of a full-stack web application to automate internal operations like scheduling and communication for over 100 users. Engineered and designed ETL pipelines to track attendance for **300+ students and log hours for 50+ employees.**
- Utilized Python, Firebase and Google Data Studio to build dynamic dashboards for real-time performance monitoring and integrated a secure online tutoring system into the platform. Automated routine tasks and performed debugging using AI-powered solutions (e.g., Google Gemini).
- Enabled data-driven decisions for leadership, leading to a **40% expansion** of the organization's reach to serve students in previously inaccessible areas like Tacoma and the South Sound, increased administrative and project manager efficiency by over 50%. **Helped enhance organizational vision, contributing to a tripling in funding from $100K to $300K.**

Autonomous Software Engineer, Trickfire Robotics (Student Organization)
Bothell, Washington October 2025-Current.

- Developed autonomous navigation algorithms using Python, computer vision, and LiDAR data to enable real-time obstacle detection and path planning for a competition mars rover.
- Used OpenCV and ROS frameworks to process camera and LiDAR sensor input, improving object accuracy and route optimization for fully autonomous movement.
- Leveraged AI-powered solutions (e.g., Google Gemini) to automate routine tasks such as debugging, code generation, and sensor data annotation, enhancing productivity by 30%

Skills

- **Technical Skills:** SQL, Python (Pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn), React.js, PowerBI, Gemini Code Assist
- **Soft Skills:** Storytelling, Business Decision Making, Leadership

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Projects:

- **Nara – AI-powered political social media sentiment analysis app (Hackathon & Shark Tank Winner – 1st Place)**
  - **Developed LLM-powered NLP pipelines** to analyze sentiment across multiple social media campaigns, extracting key trends and actionable insights for grassroots organizations.
  - Built interactive React.js dashboards to visualize time-series sentiment metrics, top voices, and engagement patterns, providing small campaigns with a fast, scalable alternative to slow, narrow traditional polling.
  - Collaborated with a team designing a cost-effective, scalable business model, making the product accessible to small organizations and **contributing to winning 1st place in both the hackathon and shark tank pitch.**
- **EV Charging Optimization & Forecasting (400,000+ rows):**
  - Used EV charging station data and OpenStreetMap geometric data and machine learning to identify charging deserts and determine optimal spots for EV charger expansion.
  - Processed and cleaned public datasets from sources including the U.S. DOE and OpenStreetMap with Python (Pandas, NumPy), Gemini, and PostgreSQL (PostGIS), then **applied XGBoost and Prophet models to predict demand**.
  - Created Dash visualizations mapping high-demand regions and recommending station locations to support strategic network expansion.
- **Portfolio Optimization & Risk Analysis Project:**
  - Optimized a stock portfolio by analyzing a decade of historical price data from Yahoo Finance to determine optimal risk-return allocations.
  - Used Pandas and NumPy for data preprocessing and statistical analysis. Created a covariance matrix from the combinations of stocks based off 10 years of pricing data. Ran 50000 Monte Carlo simulations on the stocks to simulate various portfolios.
  - Generated Seaborn visualizations of the efficient frontier and portfolio distribution to present optimal allocations and highlight the benefits of diversification. Found and visualized portfolios with the lowest volatility, highest return, and highest Sharpe Ratio.
- **Minimum Wage Project:**
  - Analyzed the disparity between the U.S. minimum wage and the cost of living by modeling how wage trends would appear if indexed to inflation by using PostgreSQL and BLS inflation and minimum wage data.
  - Developed Power BI dashboards visualizing long-term affordability changes for housing and other major expenses, offering clear insights into economic trends.