Paul Edelman

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Education

University of Delaware Newark, DE

Bachelor of Science in Computer Science, Bachelor of Arts in Applied Mathematics *Aug. 2023 – May. 2027*

Experience

Software/Data Engineering Intern May 2025 – Sep. 2025

AirGreen *New Castle, DE*

- Developed and optimized Python-based data pipelines for ingesting, cleaning, and storing real-time IoT sensor data, ensuring high data integrity and throughput.
- Applied thermodynamic equations and statistical models to monitor and improve system efficiency, translating raw telemetry into actionable performance insights.
- Implemented SQL schema optimizations and indexing, reducing query latency by 40% in high-volume analytics workloads.
- Integrated predictive analytics into operational workflows, improving system uptime forecasts and enabling proactive maintenance.

Undergraduate Teaching Assistant Aug. 2024 – May 2025

University of Delaware *Newark, DE*

- Led weekly lab sessions and discussion groups focused on Python programming, data structures, and algorithmic problem-solving.
- Utilized tools such as Jupyter Notebook and GitHub to demonstrate coding best practices and collaborative version control.
- Developed supplementary course materials and debugging workshops, strengthening students' applied programming skills.
- Collaborated with faculty to refine curriculum and integrate industry-relevant software engineering practices.

Physics Lab Intern Jun. 2022 – Aug. 2022

Delaware State University OSCAR Lab *Dover, DE*

- Engineered multi-sensor acquisition using Raspberry Pi, Arduino, and Python to collect real-time environmental data.
- Processed and analyzed datasets with MATLAB, implementing signal filtering and statistical analysis pipelines.

Projects

Block-Smash | *JavaScript, Python, Flask, Node.js, PyTorch* Jan. 2024 – Jun. 2024

- Leveraged JavaScript for a responsive front-end and Node.js to manage robust server-side functionalities.
- Built a scalable Python/Flask backend with real-time state management and low-latency client-server communication.
- Developed Smash-Bot, an AI game agent powered by PyTorch neural networks, to analyze gameplay patterns and execute high-scoring strategies.
- Gained experience in full-stack development, neural network design, and real-time data processing.

PredictSports | *Python, SQL, Playwright, TensorFlow* Jan. 2025 – Feb. 2025

- Built automated ETL pipelines to aggregate 60 years of NFL statistics into a normalized SQL database for high-speed querying and model training.
- Trained an LSTM model using TensorFlow to forecast NFL game outcomes, achieving accuracy exceeding baseline models.
- Integrated data quality checks and performance optimizations to support rapid experimentation and deployment.

Technical Skills

Languages: Python, C/C++, Java, JavaScript, SQL (Postgres), R, HTML/CSS
Backend & Data: Flask, FastAPI, Node.js, PostgreSQL optimization, Docker, CI/CD, Google Cloud Platform
Libraries: PyTorch, TensorFlow, pandas, NumPy, Matplotlib
Developer Tools: Git, VS Code, PyCharm, IntelliJ, Visual Studio