

EDUCATION

University of Wisconsin – Madison | Cumulative GPA: 3.5 /4.0

Sept. 2022 – May 2026

Bachelor of Science, Computer Science and Data Science (dm.)

Madison, WI

Selected Coursework: Algorithms, Data Structures, Big Data Systems, Databases, Machine Organization & Programming, Statistical Modeling and Analysis, Machine Learning, Data Ethics and Policy, Linear Algebra, Calculus

EXPERIENCE

Data Science Intern | Python, Statistical Modeling, Power BI

May 2024 – Aug. 2024

Rodgers Machinery Company, Inc.

Portland, OR

- Achieved **\$6.4k+**/year in savings and reduced workload by 8 hours/month by creating an **ETL pipeline**.
- Improved operational efficiency and resource allocation by developing **predictive models** for churn, performance, inventory, and utilization metrics.
- Increased onboarding speed **20x** by developing ETL and data analysis documentation.
- Realized **\$20.5k+**/year in savings and improved efficiency by automating business processes with Power BI dashboards, reducing effort from multiple hours per month to a single button press per task.

ML Research Assistant | Python, HTCondor, Shell Scripting

Sep. 2022 – May 2024

Dane Morgan Materials Science Research Group

Madison, WI

- Achieved precise generation of novel matrix structures by enhancing the accuracy of compression and reconstruction using a **variational auto-encoder**.
- Realized a **20%** increase in validation accuracy by expanding and cleaning the materials dataset (50k → 415k rows).
- Enhanced computational throughput during training by utilizing GPUs from the HTCondor Software Suite.
- Applied convolutional neural networks (**CNNs**) to materials datasets and deployed them to Cloud Foundry.

Projects Lab Coordinator | Python, Linux, Astro

Jan. 2024 – Present

Undergraduate Projects Lab (UPL), UW-Madison

Madison, WI

- Captured real-time monitoring of lab occupancy by implementing a Raspberry Pi and camera setup using the **YOLOv7 computer vision** model, which updates the count on a Discord channel.
- Increased server infrastructure capabilities by maintaining and expanding a **Kubernetes** cluster.
- Developed the lab website using Astro and Tailwind; managed GitHub open-source contributions, issues, and PRs.

PROJECTS

Team Scheduling Manager | Rust, Diesel, React, PostgreSQL, Serde, Git

Mar. 2024

- Enhanced team productivity by building a full-stack task scheduler with **React, Rust, and PostgreSQL**.
- Ensured system safety by implementing robust user authentication, leveraging Rocket RESTful APIs to facilitate secure interaction between the front-end and database.

MIT Quantum Photonic GAN | Python (Quandela Perceval, PyTorch), Photonic Circuit Design, Git

Feb. 2024

- Achieved **45%** fidelity by implementing a Quantum Generative Adversarial Network (**Q-GAN**) from scratch using secant descent and vectorized approaches over a single 24-hour session.
- Presented the Q-GAN to a panel of scientists, highlighting its innovative and technical aspects.
- Led a 5-person team to a **Top 3** finish at MIT's IQuHACK 2024, excelling in Quandela's Quantum Photonics Challenge.

Handwritten Code Interpreter | React, Bootstrap, Express, Java, Git

Sep. 2023

- Compiled and executed handwritten code from .PNG images using Google OCR and Java Reflections.
- Streamlined image collection and elevated UX by wrapping the interpreter in a front-end built with React and Axios.

ACHIEVEMENTS AND LEADERSHIP

MIT IQuHACK Top 3 | Quantum Machine Learning, Photonic Circuit Design

Feb. 2024

IBM Quantum Excellence Scholar | Multi-qubit Systems, Noise Mitigation, Superconducting

Jul. 2023

Quantum Computing Club Vice President | Teaching, Talks (IBM Qiskit, Quantum Hardware)

Feb. 2023 – Present

Hackathon Lead Organizer | 380+ attendees, 100+ project submissions, and 18K+ in funding

Oct. 2023 – Present

TECHNICAL SKILLS

Languages: Python, C, Rust, Java, SQL (PostgreSQL, MySQL), R, JavaScript, HTML/CSS

Libraries and Frameworks: React, Astro, Express, pandas, NumPy, Matplotlib, Scikit-learn, PyTorch, Flask, JUnit

Developer Tools and Platforms: Shell, Git, Docker, Amazon AWS, MongoDB Atlas, Power BI, Vim, Linux, macOS, Windows