NICO SALM

+1 920-421-5525 | nico@salm.dev | Website | LinkedIn | GitHub

EDUCATION

University of Wisconsin – Madison | *Cumulative GPA: 3.6/4.0* **Sept. 2022 – May 2026**
Bachelor of Science, Computer Science and Data Science *Madison, WI*

Selected Coursework: Algorithms, Data Structures, Data Science, Statistical Modeling, Linear Algebra, Data Ethics & Policy, Calculus, Machine Organization & Programming

EXPERIENCE

Machine Learning Engineer Intern | *Python, Statistical Modeling, Power BI* **May 2024 – Present**
Rodgers Machinery Company *Portland, OR*

- Working to increase operational efficiency and resource allocation by developing predictive models for churn, performance, inventory, and utilization metrics.
- Analyzing large datasets using Python and Excel to uncover and illustrate trends and patterns.
- Communicating clear, actionable metrics with Power BI visualizations.

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.
- Applied convolutional neural networks (CNNs) to materials datasets and shared them on Cloud Foundry.
- Enhanced computational throughput during training by utilizing GPUs from the HTCondor Software Suite.

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 sever 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 | *Quandela Perceval, Python (PyTorch), Git* **Feb. 2024**

- Achieved 45% fidelity by implementing a Quantum Generative Adversarial Network (Q-GAN) from scratch using secant descent and vectorized approaches.
- Secured 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 by wrapping the interpreter in a front-end built with React and Axios.

ACHIEVEMENTS AND LEADERSHIP

MIT IQuHACK Top 3 | Quantum Machine Learning, Photonic Circuits **Feb. 2024**
IBM Quantum Excellence Scholar | Multi-qubit Systems, Noise Mitigation, Superconducting **Jul. 2023**
Quantum Computing Club Vice President | Workshops (IBM Qiskit, Quantum Hardware, Physics) **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