Nico Salm

contact@nicosalm.dev | in/nicosalm | github.com/nico-himself | nicosalm.dev

Education

University of Wisconsin – Madison Madison, WI

Bachelor of Science in Computer Science, Data Science – GPA: 3.5 *Expected May 2026*

- Relevant coursework: Data Structures and Algorithms, Object-Oriented Programming, Computer Engineering, Machine Learning, Data Science Programming, Statistics, Calculus

Experience

Informatics Skunkworks - Dane Morgan Group Sep. 2022 – Present

Research Assistant (Materials Informatics) | *Python, PyTorch, Scikit-learn, pandas, NumPy* *Madison, WI*

- Curated and trained a Variational Autoencoder (VAE) to compress matrix representations, reconstruct inputs from decoded latent space, and generate novel matrix structures to achieve target properties.
- Implemented convolutional neural networks utilizing PyTorch and linear models with Scikit-learn.
- Collaborated with the CHTC team to harness the power of High Throughput Computing (HTC) principles, utilizing the renowned HTCondor Software Suite to maximize computational throughput.
- Refactored machine learning models for materials properties and shared them as cloud resources through the Cloud Foundry infrastructure, boosting accessibility for non-programmer scientists.

IBM Qiskit Global Summer School July 2023 – Aug. 2023

Quantum Excellence Scholar | *Python, Qiskit* *Remote*

- Hands-on experience with multi-qubit systems, quantum entanglement, super conducting quantum circuit design, and noise mitigation through five intensive labs.
- Distinguished with the 'Quantum Excellence Scholar' certificate from IBM Quantum for exceptional proficiency in both theoretical and practical quantum computing realms.

Projects

Personal Website | *Astro, JavaScript, HTML, CSS, Git* May 2023 – Present

- Developed a modern and visually appealing personal website using the Astro web framework, leveraging its component-based architecture and static site generation capabilities.
- Implemented responsive design principles to ensure optimal user experience across various devices, utilizing CSS media queries and layout components provided by Astro.
- Integrated a night mode, enabling a seamless transition between light and dark color schemes.

Cornucopia | *React, Bun/Next.js, MongoDB Atlas, Python, Leaflet Map API, Git* Sep. 2023

- Pioneered a robust framework for neighborhood gardeners and small-scale farmers to collaborate.
- Created a full-stack web application featuring an intuitive UI using React and TailwindCSS; integrated machine learning-driven data analytics and advanced visualizations utilizing Seaborn.
- Awarded Best Agricultural Innovation by John Deere at HackUIowa 2023.

Paper++ | *React, Bootstrap, Axios, Node.js/Express, Google OCR API, Java, Git* March 2023

- Designed Paper++ during MadHacks 2023 to parse handwritten user-provided .png images (utilizing Google OCR API), execute the handwritten code, and provide output, all through an intuitive front-end.
- Engineered support for compilation of unlimited images allowing realization of complex programs.
- Recognized as a finalist (4th/56) at MadHacks Spring 2023.

Technical Skills

Programming Languages: Python, C/C++, Java, C#, HTML, CSS, JavaScript, SQL
Frameworks: React, Astro, Node.js, Bun, Qiskit
Infrastructure: MongoDB Atlas, Google Cloud, Cloud Foundry
Developer Tools: Git, Docker, GitHub Actions, GitHub Codespaces, Linux, JUnit