

# Nico Salm

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## EDUCATION

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### University of Wisconsin – Madison

Madison, WI

*Bachelor of Science in Computer Science, Data Science*

*Expected May 2026*

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

## EXPERIENCE

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### Generative ML Research

Sep. 2023 – Present

*Research Assistant (Informatics Skunkworks) - B. Afflerbach Group*

*Madison, WI*

- Curated diverse materials **datasets** for ML training, bridging experimental and predictive materials science.
- Predicted novel materials using **deep learning diffusion models** to encode and decode structural graph data.
- Worked as a focused team within a larger group, managing deliverables and deadlines.

### IBM Qiskit Global Summer School

July 2023 – Aug. 2023

*Quantum Excellence Scholar*

- Developed in-depth knowledge and practical skills in **quantum computing** by completing the course and working with industry leaders, while demonstrating a commitment to professional development.
- Completed **5** intensive labs in the Qiskit ecosystem and gained insights into quantum computing applications, equipping myself with the tools to innovate and pursue further discovery.

### Cloud-Based Materials Informatics Research

Jan. 2023 – June 2023

*Research Assistant (Informatics Skunkworks) - Dane Morgan Group*

*Madison, WI*

- Refactored machine learning models for materials properties and shared them as cloud resources through Cloud Foundry infrastructure, boosting accessibility of a key resource for the materials community by **90%**.
- **Improved takt-time** for non-technical researchers by building a high-quality commented code-base with relevant documentation, enhancing several machine learning models.

## PROJECTS

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### AutoLyfe | *Python, PyTorch, Notion, Git*

June 2023 – Present

- Cannot be publicly disclosed yet.

### 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.

### 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

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**Programming Languages:** Java, Python, C/C++, C#, HTML, CSS, JavaScript/Typescript, SQL

**Frameworks:** Astro, React, Node.js, Qiskit

**Infrastructure:** Google Cloud, Cloud Foundry

**Developer Tools:** Git, Docker, GitHub Actions, GitHub Codespaces, Linux, JUnit