**Aidan Gollan**

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**EXPERIENCE**

**MSU Mathematics Department East Lansing, MI**

*Undergraduate Research Assistant* ***August 2023 - Present***

* Collaborated with mentor Ekaterina Rapinchuk in the Math Exchange program at MSU, focusing on **machine learning** research.
* Conducted comparative analysis of **semi-supervised** learning techniques like graph max-flow methods against **supervised** methods such as CNN and SVM. Aimed to evaluate performance based on the minimal amount of labeled data required for accurate predictions.
* Served as a **cultural ambassador** in MSU's Discover America program. Facilitated a Chinese exchange student's integration through event coordination and logistical management via MSU's Concur system. Utilized strong organizational and interpersonal skills applicable to **diverse team environments**.

**DataLume** : [data-lume.com](http://data-lume.com) **Traverse City, MI**

*Founder* ***June 2023 - Present***

* Developed a robust **Flask** backend to handle high-traffic scenarios, and set up a network of **Debian** servers on **DigitalOcean** for parallelized, real-time data processing.
* Administered a cloud-based **PostgreSQL** database, implementing indexing and query optimization techniques to ensure fast data retrieval and scalable storage solutions.
* Developed web scraping tool using **Selenium** to retrieve otherwise inaccessible sales data.
* Utilized **Prophet** to train a machine learning model for sales forecasting, achieving high accuracy and enabling data-driven decision-making for local businesses.
* Spearheaded an **agile SCRUM** team, focusing on rapid iterations and feedback loops.
* Won TCNewTech Start-Up Pitch Competition for innovation and technical excellence.

**Malin Fry** **Traverse City, MI**

*Contracted Software Developer* ***June 2023 - July 2023***

* Contracted to build the initial backend for a local landscaping company using Flask and PostgreSQL. Added quote and user features for automated staff alerts; gained real-world teamwork and software development skills.

**PERSONAL PROJECTS**

**Snake / Snake AI**

* Engineered a game environment using Pygame and developed a capable AI player utilizing the **NEAT** algorithm, demonstrating my ability to engage in **self-directed learning** and hands-on problem-solving.

**Crypto Market Trading Software**

* Designed and implemented a simulated crypto trading platform in **C++**, enabling transaction execution and history tracking. The project enhanced my proficiency in C++ and provided insights into simulated financial environments.

**EDUCATION**

**Michigan State University Honors College** ***August 2022 - May 2025***

*B.S. Computer Science* ***Fall 2023 Courses***

*Minor Mathematics Data Structures and Algorithms*

**GPA: 3.89** *Computer Organization and Architecture*

*Honors Analysis*

**The Global Tech Experience** ***June 2023 - August 2023***

*Coding for Data Track*

Fine-tuned skills in SQL, Tableau, and Python via a series of individual and group projects. Handled real world data and presented findings to peers and professors.

**Northwestern Michigan College** ***August 2021 - May 2022***

*High School Dual Enrollment*

Relevant Coursework: Multivariable Calculus, Differential Equations

**SKILLS**

* **Software:** Python, C++, Flask, PostgreSQL, Data Structures, Algorithms, NumPy, Pandas, Git, GitHub, Linux,

Digital Ocean, APIs, OOP, Selenium, Firebase

* **Soft Skills:** Analytical Thinking, Leadership, Organization, Teamwork, Communication, Flexibility, Problem-Solving
* **Mathematics:** Calculus, Linear Algebra, Boolean Logic, Statistical Analysis, Mathematical Proof Writing