# Samuel Breider

Minneapolis, MN | 920-737-1795 | SamuelJBreider@gmail.com | https://samuel-breider.vercel.app/

## Education

**University of Minnesota** *Minneapolis, MN*
*Bachelor of Science in Computer Science,* ***GPA: 3.83*** Aug. 2022 - May 2026

## Experience

**Software Development Intern** May 2024 – Aug. 2024
*WEC Energy Group* *Milwaukee, WI*

- Spearheaded full-stack development of *Application Manager*, an internal tool that facilitates the registration and deletion of company software and provides a live status feed for over **200** programs.
- Utilized **VB .NET**, **WPF** and **Microsoft SQL Server Management Studio** to engineer scalable, user-friendly solutions that improved the operational efficiency of more than **7,000** employees.
- Refactored and streamlined legacy **SQL** procedures, reducing process times by **30%** on average.
- Leveraged **Azure DevOps** to manage large-scale workflows and uphold a **Git**-backed version control system among my team.

**Teaching Assistant** Dec. 2023 – Feb. 2024
*Microsoft TEALS* *Minneapolis, MN*

- Collaboratively led computer science lessons to a diverse group of students, resulting in a **100%** pass rate.
- Sharpened my understanding of object-oriented programming and software development principles.
- Fostered an inclusive environment for students and peers, encouraging growth and constructive conversation.

## Projects

**Shroom Spotter** | *Python, JavaScript, FastAPI, Supabase, React, Git* May 2024 – Jul. 2024

- Developed a full-stack **React** application leveraging **PyTorch** and machine learning techniques to identify wild mushrooms with an **86%** accuracy rate.
- Used **Supabase** to manage a **PostgreSQL** database of user response data.
- Implemented backpropagation and gradient descent algorithms to analyze results and optimize predictive models.
- Created a **RESTful API** with **FastAPI**, optimizing data transportation and enhancing system performance.

**Gopher Major Planner** | *Python, TypeScript, React, Coursedog API, Git* Feb. 2024 – May 2024

- Collaboratively built a **React** app that simplifies major declaration by identifying which degrees students are closest to obtaining through their completed coursework.
- Served as **Front End Team Lead**, guiding a team of **12** student developers.
- Seamlessly integrated **Coursedog API** to leverage a database of **24,000** UMN courses and programs.
- Wrote search and sort algorithms to process large-scale non-numeric data.
- Utilized **GitHub** for effective version control.

**Package Delivery Simulation** | *C++, Docker, Git, UML* Jan. 2024 – May 2024

- Contributed to a **Scrum-based** workflow to develop a simulation model for delivery drones in Minneapolis.
- Optimized travel paths across a graph-based coordinate plane using **A*** and **Dijkstra's** algorithms, which decreased initial routing times by over **40%**.
- Crafted detailed **UML** diagrams and EARS requirements documents, enhancing clarity in system specifications and reducing development cycle time by **25%** through improved team communication and understanding.
- Containerized the project using **Docker**.

## Skills

**Languages**: Python, Java, JavaScript, Visual Basic, C, C++, SQL, OCaml, R, TypeScript, HTML, CSS, XML, XAML
**Frameworks / Libraries**: React, Next.js, Node.js, .NET, PyTorch, Flask, FastAPI, NumPy
**Tools**: Docker, Git, Github, Azure DevOps, SQL Server Management Studio, SQLAlchemy, Visual Studio, Jira

## Other

**Social Coding**, *Front-End Team Lead*: Lead a network of programmers in developing software with a positive impact on our community.

**UMN Centennial Scholars**, *Scholarship Recipient*: Immersed myself into a scholarship program full of students who share my goals for innovation, achievement and diversity in the professional and academic world.