Samuel Breider

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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 processing times by up to **40%**.
- 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*
- 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*
- 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*
- 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*: Led a network of programmers in developing Gopher Major Planner and other software solutions 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.