

# Brett Wiseman

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## EDUCATION

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### University of Notre Dame, College of Engineering

*Bachelor of Computer Science in Engineering* | GPA: 3.882

*Honors:* College of Engineering Dean's List, Blackhawk Alumni Scholarship recipient and member

*Relevant Courses:* Operating Systems, Computer Networks, Computer Architecture, Data Structures, Systems Programming, Logic Design Embedded Systems, Circuits/Electrical Engineering Lab

Notre Dame, IN

May 2023

## SKILLS

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*Programming Languages:* C, C++, Python, Bash/sh, Matlab, Solidworks, HTML/CSS, ARM/Assembly

*Frameworks:* Linux Terminal, Verilog, Git/Github, Vim, Arduino, WireShark, macOS, Windows, IBM Toolkit

## EXPERIENCE

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### Visa Inc.

Austin, TX

#### Software Engineer Intern - *Payment Product Development (PPD)*

Summer 2022

- Successfully and quickly learned new software stack to complete beginner project of switch clean ups
- Collaborated with interns and full time employees at other office locations to perform weekly meetings virtually to stay updated on project progress
- Thrived in a hybrid work environment to complete main project which was to rewrite and improve a JSON/XML to UMF parser using C++ inside IMB Toolkit, including designing and implementing a new algorithm
- Perform testing using VM3 interface to start up test systems and load in current complied project code to run regression tests

### University of Notre Dame

Notre Dame, IN

#### Undergraduate Teaching Assistant - *Data Structures, Systems Programming, Operating Systems*

Fall 2021 - Present

- Help students develop a better understanding of relevant data structures as well as C++ classes, git / GitHub submissions, and memory management
- Assist students in learning concepts such as shell scripting, data processing with python, and system calls in C
- Manage a group of students as they developed software by hosting code reviews and giving feedback throughout the project

#### Undergraduate Research - *Cooperative Computing Lab (CCL)*

Fall 2021 - Present

- Software Developer working on high-level python abstractions for parallel computing and distributed systems software to match results running on a local machine
- Contribute to Work Queue software used by thousands of users and at other universities such as the University of Wisconsin
- Attend weekly meetings to present progress, and discuss possible ways of improvement

## PROJECTS

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### Personal Website

Summer 2022

- Build personal website using HTML/CSS, using sass for CSS as well as some javascript
- Set up linux VPS to host website and be a email server for my personal email, also used to learn about linux OS

### Multi-Player Competitive Wordle

Spring 2022

- Write Server and Client applications to play a multiplayer game of wordle - have a server run the game with certain game options, then have clients join and have a round and point based guessing game
- Complied using Thread and Socket programming to have game and clients run, as well as design API using well-defined JSON fields such that anyone could write their own version to join or host games
- Implemented rigorous error checking to make sure messages were valid, that the host wouldn't crash due to unexpected behavior, and keep game fair

### Personal Calendar Application

Spring 2022

- Developed a Client and Server application that stores information about events on the server based on requests from the client
- Designed how messages between Client and Server are structured and how data is stored persistently on the Server-side
- Used multiple threads to handle multiple clients concurrently, as well as mutex locks for synchronization

### Message Queue

Fall 2021

- Practice use of synchronization primitives and multi-threading by building a chat application that uses a personally developed C library to send and receive messages based on subscribing and publishing to queues in a server
- Learned to use the ncurses library to design the user interface of the chat application

### Cisco Systems - Open MPI

Spring 2021

- Contributed to open source project (Open MPI) by fixing issues in Github Action CI
- Implemented code to check cherry-picked commits to ensure merge is allowed only after merge for all parent commits
- Organized team meetings and led team discussions