Brett Wiseman

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EDUCATION

University of Notre Dame, College of Engineering **Notre Dame, IN**
Bachelor of Computer Science in Engineering | GPA: 3.882 **May 2023**
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

SKILLS

Programing 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

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
- 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

Multi-Player Competitive Worldle **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, with packets being well-defined JSON fields such that anyone could write their own version to join or host games
- Implemented regeros 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

Python Web Scraper **Spring 2022**
- Worked with client to build a web scraper to retrieve relevant information from a specific website
- Experimented with a new library (Selenium) to get around issues regarding authentication

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