WALKER HILDEBRAND

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TECHNICAL STRENGTHS

Languages	C++ · C# · Bash · Java · Python · SQL · MongoDB · Javascript · Node.js
Tools	MFC · Angular · Express · .NET · UNIX · Git · Visual Studio · OpenGL

EDUCATION

University of Waterloo *Expected Apr 2022*
Bachelor of Computer Science (82% major avg) *President's Scholarship of Distinction*

WORK EXPERIENCE

McAfee | Software Developer *Sep 2019 - Dec 2019*
Leading cybersecurity company, provider of McAfee WebAdvisor browser extension & native app

- Developed a messaging system between the testing framework and extension that exposed internal functionality to testers, but kept the application's internals secure from the public
- Created a proxy server with C# and Powershell to mimic responses of the extension's HTTPS requests
- Researched, built and modified Chromium source code to provide a McAfee browser proof of concept
- Created an internal tool for manipulating and backing up the LevelDB and IndexedDB implementation of Chrome and Firefox's `browser.storage.local` API

Rocscience | Software Developer *Jan 2019 - Apr 2019*
World leader in providing advanced geotechnical software to civil engineering and mining industries

- Created a CAD module to model the construction of complex 3D embankment loads and conduct time-dependant vertical soil consolidation analysis using **C++**, **MFC** and **OpenGL**
- Developed algorithms to validate, discretize, and analyze the loads with a focus on time efficiency
- Improved accuracy of settlement analysis while connecting the CAD module to the engine
- Redesigned several geometric and mathematical tools with an efficient, **graph theory** based approach

Payworks | Software Developer *May 2018 - Oct 2018*
National provider of cloud-based payroll and workforce management systems

- Deployed the automated testing framework, developing it in **C#** from a preliminary phase into a working product ready to perform smoke, end-to-end, acceptance and regression tests
- Played a decisive role in the design and implementation of the framework's core architecture
- Reinvented the method of interacting with inconsistent grid components throughout the site, immensely reducing the amount of boilerplate code and greatly improving maintainability
- Utilized **advanced design patterns** to abstract and encapsulate the construction of elements

PROJECTS

Spotify SubPlaylists (Node.js, Firebase, Angular) *October 2019 - Present*

- A web app that allows users to setup playlists 'trees' – songs added to a playlist get added to ancestors
- Collaborated with classmates, using leadership skills to assign roles and manage the project structure
- Structured the project to easily be extendible and allow new features such as locking playlists, track listening history, and monthly playlists with most listened songs

EasyDocs (DeltaHacks V) (Python, SQL, Django & Javascript) *January 2019*

- A web application for general practitioners that generates patient information templates, highlighting important data & potential medical issues
- Designed an intricate **SQL** database to relate medical ailments, treatments, side-effects, conflicting medicines, family histories, as well as HCP, patient and scheduling data
- Implemented risk assessment for medical conditions based on patient data & other risk factors
- Analyzed patient illnesses, treatments & side-effects to warn healthcare providers of potential conflicts

LocalizeCS (Bash) *October 2018*

- Created a command-line program allowing users to create and sync local versions of remote environments as a solution to the frustrations of completing assignments on UWaterloo's remote servers
- Built Git-inspired functionality to push, pull, sync and "diff" changes between the environments
- Implemented features that allow remote execution of commands and easy connection to the remote
- Shared the program amongst classmates and peers who frequently use it for assignments

Smaller Projects (Various Languages)

- FoosBoard - A modular express application that allows users to track workplace foosball games via Slack with team names, smart leaderboards and player stats
- 10FasterFingers - Chrome extension that allows users to cheat on several typing test websites. Used a javascript OCR library to outwit the anit-cheat measures.
- Ride The Bus - Developed a program in **C#** that simulates a card game. Programmed and analysed different playing strategies and their efficacy

ACADEMIC & PERSONAL ACHIEVEMENTS

Third place in University of Manitoba Math Contest *2017*
Placed in the top 15% in several national math contests *2014-2017*
3 WSD Academic Achievement Awards *2014-2017*
Manitoba Provincial Record - 400m Medley Relay *2010-Present*
Multi-Instrumentalist (Guitar, Bass, Piano)