

# WALKER HILDEBRAND

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## TECHNICAL STRENGTHS

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<b>Languages</b>	C++ · C# · Javascript · Node.js · Shell Scripting · Java · Python · SQL
<b>Tools</b>	MFC · Angular · Express · .NET · UNIX · Git · NoSQL Databases · OpenGL

## EDUCATION

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**University of Waterloo**

Bachelor of Computer Science (83% major avg)

*Expected Apr 2022*

*President's Scholarship of Distinction*

## WORK EXPERIENCE

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**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

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### 🌐 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
- Led a small dev team of classmates using skills in project management and software design
- Structured the project to easily be extendible and allow new features such as locking playlists, tracking listening history, and auto-generated playlists with the user’s most played songs of the month

### 🔗 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 anti-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

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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*

## EXTRACURRICULAR INTERESTS

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Playing Music - Guitar, Bass & Piano

Visual Art - Programmatic & Geometric Art, Abstract Drawing

Martial Arts - Judo & Muay Thai

Hiking & living up to my name as a Walker

Reigning Foosball Champ at McAfee Waterloo