WALKER HILDEBRAND

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As a passionate programmer from a very early age, I have always enjoyed and prioritized taking on more responsibility than what is expected of me. In previous internships, my supervisors have acknowledged my ability to contribute to design meetings filled with more experienced developers, and to properly execute tasks assigned to me with minimal supervision. As a very quick learner, and a skilled developer, I'm able to work efficiently either independently or within a team to produce quality software.

TECHNICAL STRENGTHS

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

EDUCATION

University of Waterloo *Expected Jun 2022*
Bachelor of Computer Science (83% avg) *President's Scholarship of Distinction*

WORK EXPERIENCE

Rocscience | Software Developer *Jan 2019 - Present*
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++** and **MFC**
- 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

Sweet Tops Ice Cream | Freelance Developer *May 2017 - Aug 2017*
Small business that I approached with a solution to their issues managing 30+ part-time employees

- Developed a **Java** application to assist in payroll, scheduling and employee management
- Implemented automatic pay calculation, schedule distribution, and schedule conflict detection
- Integrated a **relational database** to store employee and schedule data using SQLite3 and JDBC

SIDE PROJECTS

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

- Developed 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

⟲ Multiquadris (CS246 Final Project) (C++)   *December 2018*

- Created a multiplayer, command line version of Tetris, with special actions and varying difficulties
- Designed an extendable, well-structured, program through the use of appropriate **design patterns**
- Received a grade of **105%** for excellent design and the addition of several extra features

⟲ 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

Mini Projects (Assorted Languages)

- 10FasterFingers - Created a Chrome extension that allows users to cheat several typing test websites. Used a javascript OCR library to overcome the anti-cheat system.
- Spotify Weekly Update - Used Spotify's API to continuously update a **MongoDB** database of my listening history, and create a weekly playlist of my most listened to songs
- Ride The Bus - Developed a program in **C#** that simulates a card game. Programmed and analysed different playing strategies and their efficacy

Please see my projects page at www.walkerhildebrand.com/projects for more

ACADEMIC & PERSONAL ACHIEVEMENTS

Unofficial peer tutor (Computer Science)	*2018-Present*
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*
Hobby Bass Guitarist & Multi-Instrumentalist	
Intermediate Squash Player	
Digital Artist (Geometric & Programmatic Art)	