UBC Science Co-op

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Deacon Sowerby

Statistics Major, Year 2

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Technical Summary

Languages: C, C++, C#, Java, GLSL, R, Python, Racket, HTML/CSS/JavaScript, SQL

Frameworks: Node, Unity, Unreal, Jupyter Notebook, Flask, JUnit, MySQL

Software: Git, Github, Visual Studio, VSCode, Android Studio, GDB, Adobe Suite, CMake, LTSpice

Personal Projects

Guitar Pedals **Jan 2022 - Present**

- Built a fuzz guitar pedal, went down an electrical engineering and signal processing rabbit hole
- Currently working on a valvecaster, which uses vacuum tubes for boosting the guitar signal, and a digital effects pedal using an ESP32 microcontroller with C

  Technologies: Soldering, Signals Processing, Microcontrollers, C, Analog Electronics

Game Engine **Sept 2020 - Dec 2022**

- Built a custom development platform for future personal projects
- Capable of rendering custom parsed 3D models, handling matrix transforms, custom entity and shader management, as well as some extra assorted features such as a skybox
- Written in C and C++, using OpenGL, with GLSL for shaders

  Technologies: C/C++, OpenGL, GLSL, CMake, Git

Demoscene **Mar - Aug 2020**

- Demoscene is a UNESCO recognized cultural heritage in multiple countries, focused on the development of small executables showcasing programmatic art
- Made a demoscene for a German demoparty known as Revision
- Written in C and GLSL, with native Windows APIs

  Technologies: C, GLSL, OpenGL, WinAPI

Mobile Games **June 2018 - Sept 2020**

- Developed a series of small video games
- Self-taught programming
- All written in C#, using the Unity game engine, and occasionally, Android Studio

  Technologies: Unity, C#, Android Studio

Academic Projects

Songwriting Application **Aug 2023**

- Created a songwriting platform in the style of guitar tablature sites such as Ultimate Guitar
- Written in Java, using Swing for GUI, as well as JUnit for testing, utilizing Object Oriented Programming standards
- Features included different styles for chords, lyrics, guitar tablature, and headers/notes
- Handled storing and loading songs through JSON

  Technologies: Java, JUnit, Swing, OOP

Grain Classification **Nov - Dec 2022**

- Used data from Kaggle to develop a system using R, and Jupyter Notebook, to classify various strains of Grain using traits such as shape, size, and weight
- Involved cleaning, and wrangling data into a usable format, followed by analysis and visualizations to develop a model of the various grain characteristics
- Developed in a team of four, with collaboration on Github

Technologies: R, Jupyter Notebook, Git

Tupp.Shop **Jan - June 2022**

- Built a school ecommerce store for my highschool business class
- Worked with a classmate, collaborated on Github
- Deployed and actively used to facilitate sales
- Written in mostly in Typescript, with Svelte as a framework

Technologies: Svelte, Typescript, HTML/CSS/JS, Git

Work Experience

East West Grocery **July - Aug 2021**

- Handled inventory storage and classification
- Communicated with drivers on delivery schedules and logistics
- Managed storefront display, and assisted customers

Sparetime Clubhouse Summer Camp **July 2017 - Aug 2020**

- As employee, managed team of volunteers
- Planned and lead activities
- Handled and scheduled pickup and dropoff of kids

Education

Bachelors of Science, in Statistics *Dean's List 22-23* **Sept 2022 - Present**

University of British Columbia, Vancouver Campus

Interests

Running

- Ran competitively in High School and still run for fun
- Competed provincially in the 400m, and the 4 by 400m, with a top-10 finish

Music

- Worked in multiple bands, and on various musical projects
- Play guitar/piano/bass/trumpet, and currently learning drumming
- Trying to build guitar pedals currently, so learning some electrical engineering

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