Jacob Chisholm

Computer Engineering (ECEi)
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Education

- **Queen's University, Kingston ON** *2026*
  Computer Engineering Innovation Stream (ECEi)
- **Rockridge Secondary School** *2022*
  High School Percentage: 94%

Experience

- **ThunderBird Marine** *2022-Current*
  Yard Work Employee West Vancouver, BC
  – Skills: Collaboration, Customer relations, Personal Initiative
  – Operated a 25MT (Metric Ton) Marine Travel Lift to lift, block, and relocate boats
- **Trolls Resturaunt** *2019-2021*
  Back House Employee West Vancouver, BC
  – Worked in a fast-paced environment while fulfilling several roles including dishwashing, food prep, and line cook

Extracurricular Experience

- **Queen's Formula SAE Racing Design Team** *2023-Current*
  Team Co-Lead - Electrical/Firmware/Power Electronics Kingston, ON
  – Leading more than 60 multidisciplinary student engineers to create an EV electrical package
  – Designing the first electric racing vehicle to be produced at Queen's University
- **Ten Ton First Robotics** *2022-2023*
  Team Lead - Electrical/Software/Pneumatics West Vancouver, BC
  – Designer of 2023 Main Electrical Board
  – Implemented the team's first-ever command-based code
  – Restructured Java to C++ to reduce overhead and gain performance
  – Collaborated with over 30 students to assemble and wire two competitive robots simultaneously
  – Thrived in high-pressure situations to optimize the robot's performance throughout the tournament

Technical Skills and Interests

Languages: C, C++, Python, VHDL, GIT, Embedded C, Verilog, JavaScript

Hardware: STM32, CAN, VGA, ESP32, PS2, ADC, DAC, Arduino AVR

Office Software: Word, Powerpoint, Excel, OneNote, Markdown and LaTeX

Recent Projects Project Titles Link to Portfolio Entries

- **STM32 Bare Metal Programming** *2023*
  Implemend basic functions on an STM32 microcontroller without the use of a HAL (Hardware Abstraction Layer)
  – Tools & technologies used: STM32, Embedded C, USART, ARM GDB, BlackMagic Debug Probe, ST-Link
  – Developed USART, ADC, and PLL device drivers for the STM32F446RE Microcontroller
- **FPGA Pong Game** *2023*
  "Pong" written in VHDL and running on a Cyclone II FPGA.
  – Tools & technologies used: VHDL, ModelSim, Altera Quartus, Cyclone II DE2 Development Board, DAC, VGA
  – Programmed A fully functional user VS AI pong game running off of a Cyclone II FPGA through a VGA output and button input.
- **Personal Portfolio** *2023*
  Built a website to house all of my personal projects
  – Tools & technologies used: CSS, HTML, JavaScript, VSCode, Github Pages, NodeJS
  – This is a static site hosted by Github pages that I use to demonstrate my learning through various personal projects. The website itself is also a personal project and I learned all of the languages and tools needed to build it in under 12 hours.