



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
 - 25MT Marine Travel Lift Operation
 - Forklift Operation
 - Sea Tows (up to 45 ft boats)
 - Lifting / Launching Boats
 - Trailer Towing / Relocation
- **Trolls Resturaunt** 2019-2021
Back House Employee West Vancouver, BC
 - Dish Washing
 - Prep Cook
 - Line Cook

RECENT PROJECTS PROJECT TITLES LINK TO PORTFOLIO ENTRIES

- **FPGA Pong Game** 2023
The all classic "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
 - A fully functional pong game running off of a Cyclone II FPGA through a VGA output and button input.
- **FPGA Numerical Display** 2023
Displaying an 8 bit binary number in decimal format on three seven segment displays
 - Tools & technologies used: VHDL, ModelSim, Altera Quartus, Cyclone II DE2 Development Board
- **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.
- **CAL** 2023
CAN Abstraction Layer (CAL) built for MoTeC M150 ECU and PDM15
 - Tools & technologies used: C++, PlatformIO, STM32, Arduino
 - A library for easily receiving and decoding CAN messages from the MoTeC M150 ECU and PDM 15
 - Designed in conjunction with Ethan Peterson's STM32 CAN Bus library
 - Published on the PlatformIO Library Registry
- **First Robotics Programming** 2022
All of the code required to run a competitive robot
 - Tools & technologies used: C++, Gradle, VSCode, WPILib, Java, FRC RoboRio
 - Wrote all autonomous and driver control functions within a command based program for the 2022 robot. Check out the code here.
 - 2022 FRC World Championship Competitor
- **First Robotics Electrical System** 2022
Designed and implemented the wiring for the 2022 FRC robot
 - Tools & technologies used: Ferrule / Molex / AndyMark PowerPole / JST-XH / Dupont Crimps, CAN Bus Wiring
 - Designed the wiring harnesses for the 2022 robot. Check out the project on my portfolio.
 - 2022 FRC World Championship Competitor

TECHNICAL SKILLS AND INTERESTS

Languages: C, C++, Java, Python, GCODE, GNU COBOL, JavaScript, HTML, CSS, VHDL

Developer Tools: VSCode, VIM, ModelSim, Git, GitHub, PlatformIO, STMLink, STM Utility, Arduino

Hardware: STM32, CAN Bus, VGA, Fusion 360, SolidWorks, Oscilloscope Operation, Soldering, ESP32

Areas of Interest: HDL Programming, Autonomous Robotics, FPGAs/ASICs, Embedded Systems & Software Engineering, Communications Systems, Computer Sensing Technologies

Office Software: Word, Powerpoint, Excel, OneNote and L^AT_EX

Certifications: Forklift, Pleasure Craft, CPR C, Bronze Cross Life Guarding, WHMIS (Workplace Hazardous Materials Information System)

POSITIONS OF RESPONSIBILITY

- **Electrical Team Lead**, Queen's University Formula Team *2023-Ongoing*
- **Electrical Team Lead**, Ten Ton Robotics First Robotics Competition Team *2021-2022*
- **Programming Team Lead**, Ten Ton Robotics First Robotics Competition Team *2021-2022*
- **Pnumatics Team Lead**, Ten Ton Robotics First Robotics Competition Team *2021-2022*
- **Troop Leader**, Scouts Canada *2018-2021*

ACHIEVEMENTS

- **Deans List** Queen's University *2022*
- **FRC Excellence in Engineering Award** Awarded for Ball Indexing Algorithm *2019-2021*
- **Honour Roll (with distinction)** Rockridge Secondary *2017-2022*
- **Best Speaker** WV School District Debate Tournament *2021*
- **Tournament Champion** WV School District Debate Tournament *2021*
- **VEX Robotics Awards:** Create, Think, Build and Amaze Recipient *2018-2021*
- **Chief Scouts Award** Awarded to Scouts for leadership and world conservation efforts *2018*