THOMAS HAENE

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EDUCATION

MCGILL UNIVERSITY **Montreal, QC**
Bachelor of Engineering, Major in Electrical Engineering **FALL 2021- Dec 2025**

TECHNICAL SKILLS

- **Programming languages**: Python, VHDL, C, Bash Scripting, ARM assembly, HTML, CSS, JavaScript
- **Hardware skills**: Soldering, PCB design, Arduino microcontroller boards, STM32 microcontrollers
- **Software:** Altium, STM32CubeIDE, React frontend framework, Flask backend framework, Visual Studio Code, LTSpice, Intel Quartus Prime, EasyEDA, PostgreSQL databases

PROJECTS

STOVE ALARM DEVICE https://thomashaene.com/projects **JAN 2024**

- Built a device that sits next to the stove and sounds an alarm when the air temperature exceeds a provided threshold for a certain amount of time, its purpose is to indicate if you left the stove on. It consists of an LCD screen showing the temperature and the time past the threshold.
- The device consists of a perf board with soldered components that sit on top of an **Arduino UNO**. The device comes with 3 user-controlled inputs and is powered by the grid using a simple DC power jack.

DEEP WORK STOPWATCH - CHROME EXTENSION **MARCH 2024**

- Developed a Chrome extension to facilitate tracking study sessions, featuring simple start, stop, and reset functionalities for tracking time. The tool captures session data, storing it in a **PostgreSQL** database, and visually presents daily study durations and trends through an integrated calendar and graphs for enhanced study consistency monitoring.
- Set for imminent release on the Chrome Web Store, this **full-stack** application leverages **Flask** for the backend and Supabase for handling **user authentication**.

CLUBS & DESIGN TEAMS

MCGILL ROBOTICS
Member of the Mars Rover Electrical division. **2022-Present**

- Designed the **PCB** for our drive system using **Altium**, this board connected our motor controllers, **CANBUS unit,** and power board.
- Wrote the firmware for the Science subsystem, which involved lowering a collection arm, picking up soil, and depositing it in an internal collector to be analyzed for crop growth potential. This was done using **STM32CubeIDE.**

THE FACTORY MCGILL (student-run hardware lab at McGill.)
General Manager **2022-Present**

- Ran a weekly workshop series to help first and second-year students develop their own personal projects using my technical expertise and project management experience.
- Ran an Arduino workshop in January 2024 where I taught the basics of using the Arduino Microcontroller to around 30 first and second-year students.
- Host weekly office hours where I am available to train students in the proper and safe use of our lab hardware equipment.