THOMAS HART

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SKILLS

LANGUAGES: C++, Java, Python, C, HTML, CSS, JavaScript, VHDL
FRAMEWORKS/LIBRARIES: Android SDK, AOSP, React.js, LibGDX, scikit-learn
TOOLS: Arduino, Raspberry Pi, Git, GitHub, Android Studio, VS Code, Visual Studio, Jira, Confluence

EXPERIENCE

Software Engineer
Peraso Technologies · Sept. 2022 to Dec. 2022 · Toronto, ON

- Worked with the Device Software team to build firmware and internal tools for 5G radio devices using C++.
- Created a custom XML parsing and generation tool to allow for easy input into an EEPROM programming application.
- Improved error checking and efficiency of CLI code to eliminate crashes resulting from invalid user input.
- Updated various CLI commands to improve output clarity and remove redundant outputs.

Autonomous Vehicle Android Developer
Ford Motor Company · Jan. 2022 to Apr. 2022 · Remote

- Built Android applications using Java for an in-vehicle infotainment system.
- Leveraged hidden AOSP classes with minimal documentation to allow for a key feature to be implemented.
- Migrated features to the latest version of Android to allow for newer technologies to be used.
- Followed proper development practices to write clean and efficient code and documentation.

Computer Science Peer Tutor
Sir Winston Churchill Secondary School · Feb. 2021 to Apr. 2021 · Vancouver, BC

- Helped four classes of 15 students create and debug a variety of programs using basic Python.
- Acted as a leader and gave suggestions on how students could improve their programs.
- Exhibited great attention to detail by grading student's assignments based on a strict set of criteria.

PROJECTS

The Magic Glove (Raspberry Pi, Python)

- Created an assistive glove to help people who are blind or visually impaired with everyday tasks.
- Used a Raspberry Pi, Python and various sensors to implement three main features: spatial awareness, light detection and color detection.
- Leveraged the Google Cloud text to speech API to play audio notifications on an attached speaker.

Medical Assistant Bot (Python, HTML, CSS, JavaScript, React.js)

- Created a web application that uses machine learning to predict potential diagnoses based on symptoms.
- Used scikit-learn in Python to implement a Random Forest multi-label classification model.

PLAN-ET (HTML, CSS, JavaScript, React.js)

- Created a web application with HTML, CSS, JavaScript and React.js to help students plan out a weekly schedule around their classes.
- Implemented a greedy algorithm to generate a schedule based on user input for how many hours per week they want to do something.
- Won the prize for "Best Life Convenience Hack" at NewHacks 2022.

Arduino LED Matrix Snake Game (Arduino, C, Python)

- Used an Arduino Uno and an 8x8 LED matrix to implement the game "Snake".
- Created a Python script to listen for click input from computer keyboard and send it to the Arduino via the connected USB cable.
- Optimized the program to run efficiently, which is necessary for the LED matrix to function correctly.

Number Converter App (Java, Android)

- Used Java to create an Android application to allow users to quickly convert numbers between different number systems.
- Implemented functionality to convert between the 4 most commonly used number systems.

Crypto Terminal (Python)

- Created a command line application using Python to easily check various statistics related to cryptocurrency.
- Used the Coin Gecko API to request price data for the top 1000 cryptocurrencies by market cap.
- Worked with the mechanize and beautifulsoup4 libraries to scrape Minerstat for the current profitability of cryptocurrency mining hardware.

EDUCATION

University of Waterloo · Sept. 2021 to Apr. 2026
Candidate for Bachelor of Applied Science in Computer Engineering | GPA: 3.88
Relevant Courses: Algorithms and Data Structures (C++), Numerical Methods (C++), Fundamentals of Programming (C++), Digital Circuits and Systems