

# Ryan Hattie

ryan.hattie.codes

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## About Me

Tinkerer, designer, and maker. A fast learner, enthusiastic teacher, and dedicated worker. Knowledgeable about many technical fields, and always excited to learn something new. Can often be found learning to develop for new platforms, fine tuning a 3D printer, soldering custom circuitry, or modeling the housing for a new project.

## Recent Projects

- C++ display library for using SSD1327 OLED driver chips with embedded systems
- Year-round IoT weather station with SMD components, utilizing the ESP8266 low-power WiFi SoC and the Thingspeak API
- Thingspeak client for Garmin's Connect IQ smartwatch platform to view real-time data from atmospheric sensor nodes
- Real-time web-based weather dashboard built in Plotly Dash and Flask
- Handheld AVR-based low-resolution thermal camera

## Education

### IBM / Coursera

IBM Data Science Professional Certificate

### Career and Technology Centre

Completed over 30 Media and Engineering modules, including:

Object Oriented Programming	100%	Workstation Technology	90%
Robotics Vision Systems	96%	Advanced Robotics	100%
Client Service	94%	AV Post Production	94%
Electronic Controls	90%	3D Design	90%

## Experience

### Calgary 3D Printing

1 Year

- Conceptualized entirely unique design solutions for individual client needs
- Performed drafting, model manipulation, digital sculpting, and design optimization for additive manufacturing using the Autodesk suite of design tools (Inventor, Fusion 360, Meshmixer, Netfabb)
- Utilized a detailed and comprehensive knowledge of printer technology and material properties to provide the best possible solution for each client
- Maintained, upgraded, and operated a variety of production 3D printers
- Repaired, tuned, and upgraded client printers to exceed factory specifications
- Designed and deployed the website for a spin-off brand

### Shoppers Drug Mart

2 Years

- Built customer relations through friendly customer interaction
- Processed transactions and performed daily store duties (such as cleaning, cash reconciliation, and basic record keeping)
- Completed various minor repairs around the store
- Utilized 3D printing technology and custom design work to promote a charitable event

### Mothers Against Drunk Driving

5 Years

Engaged the public in hands-on demonstrations at an annual event.

## Skills

### Software & Web Development

- Git
- Python
- NodeJS
- Embedded C++ (PlatformIO & Arduino frameworks)
- HTML + CSS + JS (including web frameworks such as Bootstrap)
- Processing 3 and P5.js
- Pug.js template engine
- Wordpress
- Monkey C (Garmin's proprietary embedded VM-based OOP language)
- Quickly learning to use any tools necessary to accomplish a goal

### Data Science

- JupyterLab
- Pandas
- Numpy
- Plotly & Dash
- Matplotlib
- Folium
- Scikit-Learn
- Basic SQL

### Hardware Development

- Soldering (THT, SMD, point-to-point, splices)
- Microcontroller development (AVR, ESP8266/ESP32)
- PCB design (Autodesk EAGLE)
- Protocol debugging with an oscilloscope or logic analyser (with PulseView)

### Rapid Prototyping

- 3D CAD (Autodesk Inventor, Autodesk Fusion 360)
- Model manipulation (Autodesk Meshmixer, Autodesk Netfabb, Blender)
- Model preparation and machine operation for FDM, SLA, and binder jet additive processes
- Laser cutting
- Custom G-CODE
- Product design

## Other Interests

Industrial design, breakfast restaurants, virtual reality, photography, video editing