

Rowan Gaertner

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Skills

Languages: Python, C & C++, JavaScript/TypeScript, Scala, PHP, Ruby, SQL, GraphQL, Bash Script, HTML
Frameworks: Node.js, React, Gatsby, jQuery, Socket.io, Django, Cypress, Jekyll, Tkinter, Bootstrap, Figma
Technologies: AWS, DigitalOcean, Apache, Nginx, Linux, Windows, MS Office Suite, Git, VS Code, Docker
Concepts: OOP, Compilers, Algorithms, REST API, CPU Architecture & Microarchitecture, Linear Algebra

Experience

Full Stack Developer, North Arrow Research

05/2024 – 08/2024

- Made a **NodeJS** and **TypeScript** system to generate gifs of user photos, used in rich links to improve engagement
- Updated 110,240 **Python**-generated HTML watershed reports for improved layout and clearer charts
- Built a versatile **React** component in a Gatsby theme to display tools and information on website landing page
- Developed scripts with Python and **SQL** to generate user metric reports for web and **mobile applications**

Software Developer, PixelPAD.io

06/2021 – 08/2023

- Built a multiplayer **API** using Node.js, Socket.io, and **Express** for a web game engine that enables site users to easily make multiplayer games, played over 5300 times
- Developed a drag-and-drop block-based game engine that translates blocks into functioning Python code, helping numerous new programmers learn and transition to text-based coding
- Developed an integration/E2E testing suite using Cypress, with 870 components tested and 82% coverage
- Implemented Coding League website from scratch based on Figma design, using **SCSS** for mobile responsiveness

Instructor, Under the GUI Academy

06/2022 – 08/2022

- Taught Python and game development to groups of children ages 6-13 at summer camps
- Co-wrote and edited a 130-page game development tutorial book designed for educators and self-learners
- Created a weekly curriculum of lesson plans and activities to provide engaging learning opportunities

Projects

Hamber Place

- Replica of Reddit's r/Place clone built on **Django** with a JavaScript frontend
- Used to teach **HTTP requests** and cURL to group of 30+ Hamber Coding Club attendees

MP3 Player

- Python GUI for organizing audio files and playing them using the subprocess module
- Implements custom queue data structure to handle playlists, adding specific songs to queue, and play history

Auto Laser Pointer

- Created a device that recognizes gestures and automatically shines a laser pointer where directed
- Used a **Raspberry Pi** and **OpenCV** for gesture recognition, moved two servo motors as a gimbal using the GPIO pins, turned the laser on/off using a transistor

Personal Website

- Lightweight static site with **Ruby** components, hosted on an Ubuntu VPS using **Apache**
- Front page features a prototype 2D game engine written in pure JavaScript

Education

University of Waterloo - Bachelor of Software Engineering, Honours

09/2023 – 05/2028

- 3.93 GPA, Presidents Scholarship, Alumni Scholarship
- Software Engineering Society Class Representative, Yearbook Representative