Patrick Jirele

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TECHNICAL QUALIFICATIONS

Programming Languages: Python, C++, Java, GoLang, JavaScript, TypeScript, Assembly, Arduino, C

Web Dev: HTML, CSS, JavaScript, TypeScript, Python-Flask, API's, Jinja,

Database/Data Science: JSON, XML, MySQL, Tensorflow/Keras, Neural Networks, Pandas, Numpy, R

EDUCATION

Western Colorado University GPA 3.01 **Gunnison, CO**

BS Computer Science Emphasis in Scientific Computing *Fall 2020 - Spring 2024*

- Dean's List Spring 2021, Cross Country and Track (All Conference)

WORK EXPERIENCE

Arcitecta **Remote**

Software Engineer Intern *May 2023 - July 2023*

- Wrote a program to generate attractors using JavaScript and displayed them using HTML and CSS.
- Planned steps, design, and GUI in Figma to efficiently start and stay on top of my work.
- Wrote an XML script for books that will be uploaded and displayed to users.
- Worked on full stack development using Typescript, HTML, and CSS.
- Wrote an XML parser in Typescript to show data to users on an HTML page.

PROJECTS

Human Analytics Web App https://mwhalen.pythonanywhere.com/

- This project was given to the group by Marita Wallen and Western Colorado University's Division of Inclusivity. The completion of this project saved Western Colorado University roughly $82,400.
- The project was to create a web application that Marita could use for running an analysis of the faculty demographics at Western Colorado University.
- The website has admin abilities for Marita Wallen such as; uploading datasets, creating graphs and charts based on the current uploaded dataset, selecting past datasets, grouping the graphs and charts for easier analysis, and displaying selected graphs and charts on a dashboard for all users to see.

Full Stack Blackjack Website

- I used HTML and CSS for the front end development. For the back end I used Python and JavaScript for database handling, error handling, game decisions, updating the board, and disconnections. This taught me how to handle different ideas and also taught me the importance of planning before coding.

Arduino Web App Controlled Car

- Our project was an RC car controlled by a simple web application sending controls via the xbee radio module. We had 4 motors attached to the breadboard as well as light sensors to control the LED "headlights".

COURSEWORK

Implementing data structures in C++, Java, Python, Golang

- Binary Search Trees, Red Black Trees, Graphs/Maps, Doubly/Singly Linked Lists

Building basic applications and algorithms using Java, C++, Golang

Understanding the world of IOT and using C++ to implement critical thinking programs in Arduino devices.

Created CRUD websites using HTML, GoLang, CSS, and JavaScript.

Server and Client side coding using Python Flask, Golang, and Java.

Creating neural networks such as CNNs and DNNs using the TensorFlow library in python.

Data visualization and analysis using Pandas, Matplotlib, NumPy, and R.

Manual Testing, unit testing, integration testing, system-wide validation testing practices.

Predicting values based on training from machine learning algorithms in python.