

Jared Tweed

linkedin.com/in/jared-tweed | github.com/JaredTweed | [Wikipedia Contributions](#)

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Education

BSc Computer Science, Mathematics Minor

Simon Fraser University

Sep 2020 – Apr 2025

Burnaby, BC

Work Experience

Full Stack Developer

Peak HydroMet Solutions

Apr 2024 – Present

British Columbia, Canada

- **Soft Skills:** Engaged in in-person product improvement discussions with clients and worked as the sole developer for the business.
- **Data Processing:** Parsed JSON, XML, and CSV data using Python and utilized multithreading to optimize data curation speeds.
- **Front End:** Built custom widgets for ThingsBoard, implemented features using HTML, CSS, and JavaScript, optimized the ECharts.js charting library through multithreading, and provided UX design recommendations.
- **Back End:** Developed backend solutions using Node-RED, researched optimal APIs through documentation reviews, implemented email subscriptions using SendGrid and AWS Lambda/EC2, integrated MongoDB with Node.js, and worked with MQTT protocols.

Technical Skills

Languages: Java, MATLAB, Python, C/C++, SQL (Postgres), HTML/CSS, Typescript, JavaScript, R, LaTeX

Frameworks: Angular, Node.js (Express.js), Java Swing, Flask

Developer Tools: Git, Google Cloud Platform, AWS Lambda & EC2, Visual Studio, Unity3D, Apache Maven

Libraries: NumPy, OpenCV, Detectron2, PyTorch, Regex, Tkinter, Websocket.io, MongoDB, Postman

Transferable Soft Skills

Displayed a strong work ethic when on Yukon diamond drilling rigs (up to 95 hour workweeks).

Devoted years of volunteering and working with elementary school children.

Excelled in culturally diverse workplaces.

Projects

Optimized Appointment Scheduling | AWS Lambda, Sign in with Google, MongoDB

Jan 2025

Webpage: <https://jaredtweed.github.io/tetrisbooking/>

- Integrated REST API for authentication, data persistence, and appointment management.
- Optimized schedules by solving Diophantine equations to prevent gaps and evaluate how efficiently appointments fit.

SQL Database Query Creation | SQL

Feb – Apr 2023

Code: <https://github.com/JaredTweed/SQL>

Java with Maven Game | Java, Maven, Swing Framework

Feb – Apr 2022

Code: <https://github.com/JaredTweed/MouseMirageGame>

- Led Mouse Mirage's Java development using Apache Maven.
- Designed mechanics, including level progression, sound management, and UI navigation.

Text To Question Bank Converter | Python, Regular expressions, XML generation

Dec 2023 – Mar 2024

Webpage: <https://jaredtweed.github.io/TextToQuestionBankOnline>

Code: <https://github.com/JaredTweed/TextToQuestionBankConverter>

- Designed a GUI tool to edit and convert text into XML question banks.
- Optimized for error detection using regular expressions.
- Used by several professors to generate quizzes for students.

Angular Report Submitter | Angular, Leaflet API

Dec 2023

Webpage: <https://jaredtweed.github.io/TroublemakerReporter>

Code: <https://github.com/JaredTweed/AngularWebsite>

- Built a dynamic Angular 17 web app featuring Leaflet for map visualization, form handling, event emitters, and efficient routing.
- Utilized Angular's HttpClient for backend integration, and used RxJS for asynchronous observables.

Relational Database Schema Analyzer | *Python*

Mar 2023

Code: <https://github.com/JaredTweed/NormalForms-CanonicalCover>

- Developed a Python tool to analyze functional dependencies in relational databases, assessing closures, candidate keys, and canonical covers.
- Implemented normalization checks (2NF, 3NF, BCNF) and verified lossless, dependency-preserving decompositions.

R Studio: Traits and Life Satisfaction Correlation | *R*

Dec 2023

Code: https://github.com/JaredTweed/R_withStatsCanada

Computer Vision Projects

Hand Detection App | *Traffic Analytics, Hand Detection, Stripe Payments*

Nov 2024

Webpage: <https://jaredtweed.github.io/hands>

- Developed a web app using real-time hand tracking.
- Achieved 777 active users in 45 different countries.

Panorama Maker | *MATLAB, Homographies, Harris Corner Detection, RANSAC*

Mar 2023

Code: <https://github.com/JaredTweed/PanoramaMaker>**Airplane Segmentation** | *PyTorch, Detectron2, Instance Segmentation, Google Colab GPU*

Nov 2023

Code: <https://github.com/JaredTweed/ComputerVision-pytorch-detectron2>

- Managed machine learning workflow, with data preparation, model training, and evaluation.

Real-Time Digit Recognition | *PyTorch*

Dec 2023

Code: <https://github.com/JaredTweed/MNIST-pytorch>**Pure Numpy Digit Recognition** | *NumPy, ReLU, CNN, Max-pooling, Backpropagation*

Sep 2023

Code: <https://github.com/JaredTweed/MNIST-artificial-intelligence-numpy>