

# Dan Tan

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## TECHNICAL SKILLS

- Languages: PostgreSQL, Python, Ruby, JavaScript, HTML, CSS, C, C++, MATLAB, R
- Frameworks & Libraries: React, Express, Rails, Jest, Puppeteer, Chart.js, Bootstrap, TensorFlow
- Tools: Git, Figma, AutoCAD

## EXPERIENCE

### **Software Developer (in Training)**

Jan 2020 – Present

- Designed relational schemas, set up databases for migration and querying, and wrote REST API endpoints
- Built single-page user interfaces through React Routers and consumed map and weather APIs for fetching data
- Adopted test-driven development by writing unit, integration, and end-to-end tests with Jest and Puppeteer
- Implemented asynchronous programs and interpreted memory and synchronization errors through Valgrind
- Built ML and deep learning models for image classification and NLP using TensorFlow, Scikit-learn, and NLTK

#### *Projects:*

- Developed a sustainability-themed React application that showcases the green city features and weather forecast
- Built a Dungeons & Dragons manager using Ruby on Rails and Postgres for making custom spell books
- Wrote an asynchronous web crawler with cURL for searching PNG file URLs on the web

### **Research Assistant**

Apr – Aug 2018

*Water Institute, Waterloo*

- Optimized and implemented soil infiltration algorithms for a surface-water hydrology model
- Wrangled and analysed hydrologic time-series data through R for measuring model predictions
- Utilized the CLI for running file systems, automated tests, and software version control in Windows
- Presented research summary at the Canadian Geophysical Union conference to 30+ researchers

### **Consulting Intern**

Sep – Dec 2019

*Simpson Gumpertz & Heger, San Francisco*

- Designed flowcharts and decision trees by parsing design standards, codes, and specifications for clients
- Investigated engineering design failures through forensic testing and analysis for litigation support
- Revised building enclosure design drawings through CAD, enhancing the enclosure durability and energy efficiency

### **Student Entrepreneur**

Sep – Dec 2018

*Craft Collective – Hult Prize Finalist, Waterloo*

- Ideated youth unemployment solutions, defined user personas, and presented a wireframe design
- Iterated an e-commerce business model for connecting local handicraft cooperatives to global customers
- Researched the handicraft market by surveying 22 handicraft collectives and analysing sociodemographic reports

## EDUCATION

### **Bachelor of Applied Science, Civil Engineering (BASc)**

Sep 2015 – Oct 2020

*University of Waterloo – Waterloo, Canada*

- Advocated systems thinking to university students through podcasts at UW EWB's Ideas Without Borders
- *Topics:* Big Data, Feedback Loops, Biases & Heuristics, Sustainable Transportation, Healthy Food, etc.

### **Engineering Exchange**

Jan – Jun 2019

*University of Leeds – Leeds, United Kingdom*

- Facilitated cross-cultural learnings among international students through local charity events and trips

**Relevant Courses:** Databases & Software Design, Algorithms & Data Structures, Pattern Recognition, Artificial Intelligence, Systems Programming & Concurrency, Optimization, Project Management, Supply Chain & Logistics