

# Dan Tan

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## TECHNICAL SKILLS

- Languages: SQL, Python, Ruby, JavaScript, HTML, CSS, C, C++, MATLAB, R
- Frameworks & Libraries: React.js, Express, Rails, Jest, Material-UI, Bootstrap, OpenCV, TensorFlow
- Databases & Tools: PostgreSQL, MongoDB, Docker, Google Cloud (APIs), Git, Figma, AutoCAD

## EXPERIENCE

### **Software Development**

Jan 2020 – Present

- Created asynchronous network programs in C and interpreted memory and synchronization errors
- Built backend applications using MVC frameworks and implemented relational and document-oriented databases
- Wrote and consumed REST API endpoints in Express and React for data fetching and user authentication
- Designed object-oriented SPAs through React Routers and structured components using Context and Hooks
- Adopted test-driven development by writing unit and integration tests in Jest and RSpec

### **Research Assistant**

Apr – Aug 2018

*Water Institute, Waterloo*

- Implemented algorithms and subroutines for a hydrology model used by Environment & Climate Change Canada
- Wrangled and analysed hydrologic time-series data by sequence matching to measure model predictions
- Utilized the command line interface to manage file systems and software version control in Windows
- Presented research results at the Canadian Geophysical Union Conference to researchers and experts

### **Consulting Intern**

Sep – Dec 2019

*Simpson Gumpertz & Heger, San Francisco*

- Evaluated design alternatives based on project requirements, design criteria, and analysis (modelling & calculations)
- Wrote detailed client proposals and recommendations, in collaboration with the department head
- Created design workflow visualizations (flowcharts, decision trees) by parsing documentation and specifications

### **Student Entrepreneur**

Sep – Dec 2018

*Craft Collective – Hult Prize Finalist, Waterloo*

- Engaged in UX design by ideating feasible solutions, defining user personas, and presenting wireframe designs
- Researched the handicraft market by surveying 22 existing cooperatives and analysing sociodemographic reports

## PROJECTS

- Wrote an asynchronous web crawler with libcurl for searching and downloading PNG URLs from a server
- Developed a React application that maps sustainable city features and displays real-time weather forecast
- Built a D&D manager in Ruby on Rails and PostgreSQL for creating customized book contents
- Architected a convolutional neural network in TensorFlow that identifies traffic signs with 97% accuracy

## EDUCATION

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

Sep 2015 – Oct 2020

*University of Waterloo – Waterloo, Canada*

- EWB's Ideas Without Borders Podcast Co-host (Big Data, Feedback Loops, etc.), Varsity Tennis Athlete

### **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, Numerical Computation, Optimization, Advanced Calculus, etc.