Dan Tan

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EDUCATION --

University of Waterloo (CA) & University of Leeds (UK)   **Sep 2015 – Oct 2020**

Civil Engineering, Honours BASc

- **Courses:** Algorithms & Data Structures, Artificial Intelligence, Pattern Recognition, Optimization, Numerical Computation, Systems Programming & Concurrency, Databases & Software Design, Linear Transformations

EXPERIENCE --

- **Dungeons & Dragons:** Developed a spell book management app with a 3-tier architecture   **Rails, PostgreSQL**
  - *App: dd-spellbooks.herokuapp.com*
- **Mail:** Built a front-end for an email client that makes API calls to send and receive emails   **JavaScript**
- **Math:** Designed a math game UI to improve mental math skills   **React, Bootstrap**
- **Heredity:** Wrote an AI to assess the likelihood of a rare genetic trait in a family   **Python, unittest**
- **Web Crawler:** Implemented asynchronous I/O with cURL for web crawling PNG files in Ubuntu   **C**
- **Shopping:** Parsed behavioural data and trained an ML model to predict online purchase probability   **Scikit-learn**
- **Traffic:** Architected a convolutional neural network that predicts traffic signs with 97% accuracy   **TensorFlow**

Research Assistant – Hydrologic Model Development

Water Institute, Waterloo   **Apr – Aug 2018**

- Calibrated and optimized model performance by tuning input parameters through the NSE metric
- Developed and debugged model subroutines with 2000+ lines of code through pair programming in Fortran
- Evaluated model predictions by analysing hydrologic time-series data through R's ARIMA and DTW libraries
- Presented research summary of the model algorithms at the 2018 CGU conference to a group of 30+ researchers

Engineering Consultant

Simpson Gumpertz & Heger, San Francisco   **Sep – Dec 2019**

- Designed and presented algorithmic flowcharts and decision trees by parsing engineering documentation and specifications, thus pinpointing design requirements to clients
- Identified and revised 100+ design issues through CAD & Bluebeam, enhancing building enclosure performance
- Examined product submittals and drafted 10+ consulting reports for QA in collaboration with senior consultants

Entrepreneur   **Sep – Dec 2018**

Craft Collective – Hult Prize Finalist, Waterloo

- Developed a handicraft e-commerce solution with a platform mock-up for employing 10,000 women
- Engaged in design-thinking and conducted handicraft market research by surveying 22 collectives and analysing sociodemographic reports of young women in developing countries
- Established revenue growth strategies and value proposition that addresses user challenges and pain points

UW EWB Podcast Co-host – Ideas Without Borders   **May – Aug 2018**

- Advocated systems thinking to engineers and university students through podcasts with 1000+ views
- *Topics:* Big data, feedback loops, biases & heuristics, sustainable transportation, and healthy food

Project Coordinator

EllisDon – Ottawa Light Rail Transit, Ottawa   **Sep – Dec 2017**

- Coordinated schedules by tracking daily progress and interfacing with subcontractors in a 200+ people team
- Estimated and verified material quantities and invoices for cost control, successfully reducing the closure phase