

# Dan Tan

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## EDUCATION

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

*University of Waterloo – Waterloo, Canada*

Sep 2015 – Oct 2020

### **Engineering Exchange**

*University of Leeds – Leeds, United Kingdom*

Jan – Jun 2019

- 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, Supply Chain & Logistics

## EXPERIENCE

### **Software Development**

Jan 2020 – Present

- Designed relational schemas, set up databases for migration and querying, and configured custom RESTful routes
- Built intuitive single-page user interfaces and consumed public APIs for fetching data
- Adopted test-driven development by writing unit, integration, and end-to-end tests with Jest and Puppeteer
- Implemented multi-threaded and asynchronous programs and interpreted memory and synchronization errors
- Wrote AI algorithms and built ML and deep learning models for classification applications

#### *Projects:*

- Experienced with PostgreSQL, Ruby on Rails, JavaScript, React, HTML, CSS, Python, TensorFlow, C, and Git
- Developed a sustainability-themed UI by utilizing Google Map & Open Weather APIs, Material-UI, and Chart.js
- Built a D&D spell book manager by adopting the 3-tier software architecture and MVC pattern
- Wrote a crossword puzzle solver by implementing backtracking search and heuristics to optimally play the game

### **Research Assistant**

Apr – Aug 2018

*Water Institute, Waterloo*

- Optimized and debugged soil infiltration subroutines for a surface-water hydrology model
- Wrangled and analysed hydrologic time-series data for measuring and evaluating 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, established 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

### **Project Coordinator**

Sep – Dec 2017

*EllisDon, Ottawa*

- Coordinated project activities by interfacing with stakeholders and engineers in a 200+ people team
- Wrote progress reports and memos, updated Gantt charts, and responded to RFIs and change orders
- Estimated and verified project budgets using MS Excel and Primavera for cost control, reducing the closure phase