Dan Tan

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EXPERIENCE --

- **D&D:** Designed the database architecture and developed a full-stack spell management app   **Rails, PostgreSQL**
  - *App: dd-spellbooks.herokuapp.com*
- **Mail:** Built a front-end for an email client that generates API calls to send & receive emails   **JavaScript**
- **Test:** Designed a math game UI for testing mental math skills   **React, HTML, CSS**
- **Genetics:** Architected a Bayesian network to assess the likelihood of a genetic trait in a family   **Python**
- **Traffic Imaging:** Created a CNN that predicts traffic signs with 97% accuracy   **TensorFlow**
- **Web Crawler:** Implemented multi-threaded and asynchronous I/O with cURL for crawling PNG files   **C, Git**
- **Word Game:** Practiced test-driven development by writing unit tests for a word game   **Ruby, RSpec**

Research Assistant – Hydrologic Model Development
Water Institute, Waterloo   **Apr – Aug 2018**
- Developed & debugged soil infiltration subroutines through pair programming in Fortran
- Analysed hydrologic time-series data through ARIMA and dynamic time warping using R
- Presented research summary of the model algorithms at the 2018 CGU conference to a group of 30+ researchers
- Calibrated and optimized model performance by tuning input parameters through the NSE metric
- Utilized the CLI for running file systems, automated tests, and software version control

Consulting Intern
Simpson Gumpertz & Heger, San Francisco   **Sep – Dec 2019**
- Revised building enclosure design drawings through AutoCAD & Bluebeam Revu, enhancing the system durability and energy efficiency
- Designed flowcharts & decision trees by parsing design standards, codes, and specifications for clients
- Documented & investigated glazing failures through forensic testing & analysis for litigation support
- Examined product submittals and drafted 10+ field reports for QA in collaboration with senior consultants

Entrepreneur   **Sep – Dec 2018**
Craft Collective – Hult Prize Finalist, Waterloo
- Ideated a handicraft e-commerce solution and prototyped a mock-up for empowering youth and cooperatives
- Conducted handicraft market research by surveying 22 collectives and analysing sociodemographic reports
- Established value proposition and selected KPIs for gaining and measuring traction

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 updating daily progress and interfacing with subcontractors in a 200+ people team
- Estimated & verified material quantities and invoices for accurate cost control, reducing the closure phase

EDUCATION --

University of Waterloo (CA) & University of Leeds (UK)   **Sep 2015 – Oct 2020**
Bachelor of Applied Science, Civil Engineering
- **Courses:** Algorithms & Data Structures, Databases & Software Design, Pattern Recognition, Artificial Intelligence, Systems Programming & Concurrency, Project Management, Transportation Planning & Modelling, etc.