Dan Tan

sjtan@uwaterloo.ca | dantan.me | github.com/dantan123

EDUCATION

Bachelor of Applied Science, Civil Engineering (BASc)   Sep 2015 – Oct 2020
University of Waterloo – Waterloo, Canada

Engineering Exchange   Jan – Jun 2019
University of Leeds – Leeds, United Kingdom

Relevant Courses: Algorithms & Data Structures, Databases & Software Design, Pattern Recognition, Artificial Intelligence, Systems Programming & Concurrency, Numerical Computation, Optimization, Project Management

EXPERIENCE

Software Development (Projects)   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
- 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
- Experienced with PostgreSQL, Ruby on Rails, JavaScript, React, HTML, CSS, Python, TensorFlow, C, and Git
- GitHub Projects: Sustainability – a map-based UI, Dungeons & Dragons – spell book management, Crossword AI

Research Assistant   Apr – Aug 2018
Water Institute, Waterloo
- Optimized and debugged soil infiltration algorithms for a surface-water hydrology model
- Wrangled and analysed hydrologic time-series data through the dynamic time warping technique
- Utilized the CLI for running file systems, automated tests, and software version control
- Presented research summary at the Canadian Geophysical Union conference to a group of 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 for litigation support
- Revised building enclosure design drawings using CAD and Bluebeam Revu, enhancing the enclosure durability and the overall building energy efficiency

Student Entrepreneur   Sep – Dec 2018
Craft Collective – Hult Prize Finalist, Waterloo
- Ideated a handicraft e-commerce solution and presented a wireframe design for empowering youth and local handicraft cooperatives in developing countries
- Researched the handicraft market and users by surveying 22 collectives and analysing sociodemographic reports

Podcast Co-host   May – Aug 2018
UW EWB – Ideas Without Borders, Waterloo
- Advocated systems-thinking to university students discussing topics such as feedback loops and big data

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