

THOMAS NGUYEN

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EDUCATION

B.A.Sc. Computer Engineering | University of Toronto | Toronto, Ontario Class of 2021 (expected)
CGPA: 3.55
Software and Communications Engineering with a Minor in Bioengineering, Certificate in Artificial Intelligence
Dean's List, Honours Standing
Coursework: Algorithms & Data Structures, Operating Systems, AI Fundamentals, Intro to Machine Learning, Databases

SKILLS

Languages

Java, C, C++, C#, Python, Kotlin, JavaScript (NodeJS, AngularJS, Typescript), SQL

Tools

AWS (Cloudfront, API Gateway, Lambda), Salesforce.com (Apex), , Apache (Maven, Camel, ServiceMix), Microsoft ASP .NET, Spring, TensorFlow

EXPERIENCE

Agile Software Developer (Full Stack, Salesforce) | 407 ETR Concession Company | Toronto, Ontario May 2019 to August 2020
Developed external web application that interfaces with Infor Enterprise Asset Management (EAM) software to manage contractor work orders.
Built front-end using AngularJS, middleware using Apache ServiceMix ESB layer with Camel routing, Java (Spring Boot) and C# (.NET 4.5) microservices.
Developed RESTful APIs and optimized performance by over 100% when viewing over 500 work orders.
Integrated with AWS (Cloudfront, S3, Cognito, API Gateway, Lambda).

Performed optimizations on the JavaScript-based 407 ETR Toll Calculator; improved performance by 25%.
Maintained and performed regular enhancements for the 407 ETR website.

Developed custom Lightning Web Components (LWCs) for Salesforce.com Lightning Environment.
Developed a LWC to display customer trips gathered from SAP with client-side filtering and pagination.
Integrated said components with SAP database of over 1.5 million entries.
Scripted Salesforce.com automated tests in a variety of environments, including Provar, Askida CT, Selenium IDE, and Telerik Test Studio.

Researcher, Developer | Rehabilitation Institute – Lyndhurst Centre | Toronto, Ontario May 2018 to August 2018
Developed a coaching system for functional electrical stimulation (FES) rowing designed for patients with partial spinal cord injuries. Used Python and a National Instruments Data Acquisition Unit (NI DAQ) breakout box. Tests to determine accuracy performed using motion capture software.
Publication: bit.ly/FesRowing

PROJECTS

Text Editor | Python September 2020
Developed text editor with focus on optimizing performance; used Rope data structure to store text and increase performance of string concatenations.
Words were initially stored in binary tree with lead-node weights of word-length and non-leaf-node weights of the left child weight.
By using Ropes instead of strings, Concatenation operation improved from $O(n)$ to $O(1)$ and Cut/Paste operations improved from $O(n)$ to $O(\log n)$.

ETR Chat – AI Chat Bot | Python July 2019
Smart chat bot integrated with Facebook Messenger that notifies customers of the 407 ETR of account details and real time statistics such as accidents, congestion, trip capture status, and billing information. Bot would use AI to record customer's regular trips and, using live information, inform user to leave earlier or later than usual depending on live highway status and weather. Implemented using Python and Facebook Messenger API.

Simple Maps – Geographical Information System | C++ January 2018 to May 2018
Developed a GIS to analyze spatial data of major cities featuring a UI with text prediction and auto correct. Implemented Dijkstra and A* algorithms to compute optimal travel routes up to 700% faster than time limit. Implemented greedy, random 2-opt, multithreading, simulated annealing to optimize travelling salesman solution by over 300% from initial implementation (placed 21st/110 teams).

INTERESTS AND ACTIVITIES

Iron Dragons Dragonboat Team – Club Crew World Championship 2018 (Szeged, Hungary): 8x Gold medalist, 2x Silver medalist
Lifeguard & Lifesaving Instructor – Standard First Aid and Bronze Cross instructor
Avid NBA fan – Favourite Team: Boston Celtics, Current Favourite Player: Luka Dončić, All-Time Favourite Player: Steve Nash