THOMAS NGUYEN

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EDUCATION

B.A.Sc. Computer Engineering with Honours | University of Toronto | Toronto, Ontario

CGPA: 3.64

Minor in Bioengineering, Certificate in Artificial Intelligence

Coursework: Algorithms & Data Structures, Operating Systems, AI Fundamentals, Intro to Machine Learning, Databases, Computer Networks

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SKILLS

Languages

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

Tools

AWS (EC2, CloudFront, Lambda), Salesforce.com (Apex), Apache (Maven, Camel, ServiceMix), Microsoft ASP.NET, Spring, TensorFlow, PyTorch, Docker

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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

ForeSight – ML Medical Screening Android App | Flutter, Python, PyTorch, Flask, AWS EC2, Docker   September 2020 – May 2021

Computer Engineering 4th year capstone design project.

Created an Android app that performs screenings of potential medical conditions to motivate users to seek medical attention when required.

Achieved final testing accuracy of 86% by training on 5207 images of skin conditions, including nail fungus, basal cell carcinoma, and melanoma.

Final machine learning model was exported via Docker to be hosted on AWS EC2, and accessed via a mobile app created using Flutter.

GitHub: bit.ly/ece496codebase; PlayStore: bit.ly/ece496foresight

KLARR NET – Facial Emotion Recognition Via Webcam | Python, PyTorch   September 2020 – December 2020

Designed, trained, tested an original ML model to classify 7 emotions using an image feed from a webcam.

Created the architecture using convolutional, batch normalization, dropout, and fully connected layers.

Utilized the Viola Jones algorithm to detect faces and trained on a dataset of over 36'000 images.

Achieved a final testing accuracy of 52.6% prior to using transfer learning.

GitHub: bit.ly/klarrnet

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