

EMPLOYMENT

Digital Developer, Co-op	Manulife	Jan 2018 – May 2018
<ul style="list-style-type: none">Developed POC template web pages for possible component styles for Manulife Sites, as well as mock up web pages using HTML/CSS, Bootstrap, JavaScriptWorked alongside digital marketing analysts to query, analyze, and interpret product and policy data performance for a marketing campaign project, using Microsoft SQL Server and AlteryxUsed BrowserStack, in house tools, Hootsuite, to analyze and test Manulife sites		
Data Engineer, Co-op	Scotiabank	Sept 2016 – Dec 2016
<ul style="list-style-type: none">Collaborated with data engineer team to develop and build tools in Scala/Java to analyze and ingest data through ETL process into the data lake, and wrote Batch and Bash scripts for daily file moving jobsCoordinated with different teams to manage data ingestion projects using Hadoop/HiveDirectly assisted individuals from other departments with technical/project/process issues		

LANGUAGES AND TECHNOLOGIES

- Java, Python, C/C++, JavaScript, HTML/CSS, SQL, Hive
- Git, Microsoft SQL Server, Eclipse, IntelliJ IDEA, Docker, AWS, Linux

TECHNICAL EXPERIENCE

Projects

- Neural Net Number Identification.** Simple ANN written in C that identifies gray-scale images of numerical digits, two layers used to attain 98% identification accuracy.
- Soccer Playing Robot.** C/C++ Embedded Systems project, created lego NXT robot that can play 1v1 robo soccer using a bluetooth camera.
- Travel Planning and Budgeting Web App.** Group project, MEAN stack web app that creates vacation itinerary suggestions (flights, hotels, attractions, etc) based on user input. Worked on APIS + frontend to make web pages functional and user friendly.
- Contributions to Matplotlib.** Agile process used to fix several issues and add features to Matplotlib. Fixed graph indicator visual bugs, and added scrolling feature to zoomed in graphs.
- Personal Website (thekedeng.com).** Decided I wanted a personal domain, created website using Bulma CSS framework, hosted on AWS S3.
- Compiler Optimization (LLVM C++).** Various optimization passes that run on C++ code. Used Docker for environment to create un-optimized binary code to test. Local optimization using Strength Reduction, Multi-inst Optimization, and Algebraic Identity to optimize arithmetic expressions, Dataflow analysis passes that report Live variables and Available expressions, and LICM pass that decreases the number of dynamic instructions executed during a loop by identifying and hoisting out loop invariants.
- Flight booking Android App.** Android application that books flights, mostly worked on back end creating valid itineraries, sorting, data storage, etc.
- Various Computer/Network Security CTF Challenges.** Stack smashing, Packet sniffing, arp spoofing, SQL injection, XSS, CSRF, etc. Docker used to create mock environments.
- Various For Fun Projects.** Sudoku Solver using Python based on Constraint Graph concept, and Reverse Snake game using PyGame.

EDUCATION

Toronto, ON	University of Toronto	Fall 2014 – Summer 2019
<ul style="list-style-type: none">Honours Bachelor of Science in Computer Science Software Engineering Stream		