Daniel **Min**

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Education

University of Toronto *Sept 2014 - June 2019*

BAsc in Computer Engineering

- Relevant Coursework: Algorithms and Data Structures, Operating Systems, Computer Security, Artificial Intelligence, Signal Processing, Probability, Databases, Software Design, Computer Networks

Skills

Programming Language

- C++, Java, Python, C, PostgreSQL, XML, Verilog , NIOS II Assembly, HTML, CSS, JavaScript, MATLAB

Tools

- Git, Bash, Subversion (svn), Visual Studio, NetBeans, MATLAB, Android Studio, ROS, Eclipse, Code::Blocks, ModelSim, Quartus, MultiSim

Experience

Software Engineering Intern (C++, C, MATLAB, Python) *Brampton, ON*

Magna International, Inc., Magna Electronics *May 2017 - June 2018*

- Refactored software modules to streamline dataflow for multiple clients with different needs
- Developed a parking line detection module using camera inputs and image processing algorithms, reducing computation time by 30%
- Designed and built a new algorithm for autonomous parking spot detection feature. It was found to have improved successful parking spot detection rate by 10%
- Developed an internal GUI application using Tkinter framework in Python to make automated test runs easier to analyze. Time spent in analysis was reduced by half

Self-Driving Car Research Intern (Python) *Brampton, ON*

Magna International, Inc., Magna Electronics *June 2018 - August 2018*

- Utilized ROS environment to playback vehicle driving data and gather images to use as inputs to convolutional neural network (CNN)
- Trained a CNN, implemented based on NVIDIA and Udacity's open-source models, using internal driving data with tensorflow, keras, and CUDA for GPU support to speed up training time
- Analyzed errors between predicted steering angles vs. ground truth steering angles and reported back to the team for improvements on future research and development cycles

Projects

Music Player Based on Emotion Detection (Python) *2019*

- Built a music player that plays music based on detected user emotion using Python, openCV, tensorflow, and open-source convolutional neural network (CNN) models
- Tested the CNN model with different training sets, model parameters, and architectures for highest accuracy

Mapping Application (C++) *2017*

- Developed a geographical information application using C++11 that is targeted towards tourists by leading 2 other team members
- Utilized OpenStreetMap API and data structures from STL to speed up runtime. Went through a process of software profiling to maximize efficiency and performance
- Implemented the shortest path finding algorithm starting with greedy solution and switching to Dijkstra and A* algorithm to improve the performance after iteration of testing, speeding up the computation time of path-finding

KESA Application (Java) *2017*

- Developed an android social application that allows members of the Korean Engineering Students' Association to interact and communicate in Java and Android Studio
- Utilized the Firebase database API to store and fetch user data

Daniel Min Website (HTML/CSS) *2017 - present*

- Built a website using HTML and CSS. Can be accessed at: https://dan09781.github.io/