DANIEL MIN

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EDUCATION

University of Toronto

Faculty of Applied Science and Engineering *Sept 2014 ~ Present*

- Pursuing 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 Languages:** C++, C, Python, Java, 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

WORK EXPERIENCE

Software Engineering Intern, Magna International, Inc., Magna Electronics Brampton, ON

(C++, C, MATLAB, Python) *May 2017 ~ June 2018*

- Utilized C++ design patterns to refactor the architecture of software modules to streamline dataflow for different clients
- Developed a parking line detection module using image processing algorithms. This sped up the process for line detection by 50%
- Implemented a module that autonomously detects empty parking spots. State machine was used with input data from camera images and ultrasound sensors. It was found to have improved successful parking rate by 10%
- Developed an internal GUI application using Tkinter framework in Python to make automated test runs more convenient and to reduce the result analysis time by half

Self-Driving Car Research Intern, Magna International, Inc., Magna Electronics Brampton, ON

(Python) *June 2018 ~ August 2018*

- Utilized ROS environment to playback vehicle driving data and convert to different image formats 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 team for improvements on future research and development cycles

PROJECTS

Mapping Application (2016)

- Developed a geographical information application using C++11 that is targeted towards tourists by leading 2 other team members
- Used OpenStreetMap API and data structures from STL to speed up runtime. Went through a process of software profiling to maximize efficiency and performance
- Tested the prototype user interface with variety of users to make it more user friendly
- 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 pathfinding

KESA Application (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
- Tested the prototype of various user interfaces with users to achieve high user-friendliness

Daniel Min Website (2016)

- Check out this website I made using HTML/CSS at https://dan09781.github.io/