Sean Wu

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Work Experience

Intel FPGA IP Software Development Engineering | Intern
May 2021—Present
- Optimized designs by reducing area consumption and improving timing for faster execution
- Worked on a SystemVerilog FPGA IP for accessing external memory to increase concurrent read throughput

U of T Intelligent Sensory Microsystems Lab | Research Intern
May 2020—Aug 2020
- Developed new 3D computational imaging software to accurately detect and visualize nearby objects
- Applied classical computer vision and numerical computing techniques using Python, NumPy, and OpenCV

National University of Singapore | Student Researcher
May 2019—Aug 2019
- Developed mathematical simulations for environmentally friendly air conditioners to greatly reduce energy expenditure in tropical climates
- Implemented numerical methods in MATLAB to determine ideal parameters and validate model against existing results in literature

Personal Projects

FluidStride Computer Vision Running Gait Analysis
Oct 2020—Present | 🖥 www.myfluidstride.com
- Creator and solo developer of computer vision software to analyze running form in 2D/3D
- Implemented various human pose estimation and running biomechanics papers in a working Python prototype to accurately study running gait

Extracurriculars

aUToronto self-driving car team | Planning Team Developer
Aug 2021—Present
- Designed algorithms to ensure safe and traffic compliant autonomous driving behaviour
- Implemented behaviour planning algorithms for different traffic scenarios using C++ and Boost with gtest unit testing

Awards

Hack The 6ix Best use of Google Cloud Prize	2020
UofT Engineering Science Research Opportunity Fellowship	2019, 2020
3rd, **UofT Engineering Competition** Programming Challenge	2020
UofT Engineering Dean's Honours List	2018—2021
UofT Donald C. Leigh Memorial Scholarship	2018

Education

BASc | Engineering Science
University of Toronto | 2018—Present
- 3rd year student (ECE Option)
- cGPA: 3.73

Skills

Software Development
Languages
Python • C++ • Bash • MATLAB

Libraries and Frameworks
NumPy • Matplotlib • OpenCV • Tensorflow 2.0 • Eigen

Mobile and Web Development
Android • Jekyll • HTML • CSS

Development Tools
Git • Vim • Tmux

Hardware
FPGA Design
SystemVerilog • Quartus • VCS

Embedded Systems
Arduino • Raspberry Pi

General
Languages
English • Chinese • French

Soft Skills
Adaptability • Time Management • Collaboration • Problem-solving

Interests
Triathlon
Foreign languages
Travelling