JORDAN HONG

jordan.hong@mail.utoronto.ca ◇ linkedin.com/in/jordan-hong ◇ github.com/jordanhong

EDUCATION

BASc, University of Toronto
3rd year Engineering Science

- ECE Division
- cGPA: 3.73

SKILLS

HDL and FPGA
- Verilog
- ModelSim, Quartus, Vivado

Circuit Design & Simulation
- Altium
- LTSpice

Embedded Systems
- Raspberry Pi, Arduino

Software
- Python, C, MATLAB

Developer tools
- Vim, Git, Perl, Bash

OS
- Linux, macOS, Windows

Languages
- Mandarin Chinese, English

COURSE WORK

ECE/Computer Science
- Algorithms & Data Structures
- Digital & Computer System
- Electric Circuits
- Electromagnetism

3rd year courses:
- Electronic Circuits
- Semiconductor Electronics

Physics
- Classical Mechanics
- Modern Physics
- Quantum Physics
- Thermal Physics

Mathematics
- Calculus
- Differential Equations
- Vector Calculus
- Linear Algebra

ENGINEERING WORK

Max Planck Institute (NINT department), Germany 2020
FPGA Engineer (Summer Intern) with Dr. Joyce Poon

- Implemented PWM-generating circuit for thermo-optic MZI silicon photonic switches on FPGA using Verilog. Realized high timing resolution by utilizing Vernier effect.
- C driver to interface with USB-I2C converter and control PWM LED driver
- GPU DMA Framework for FPGA-hosted accelerated neural networks and image processing. Current work involves Intel (Altera) PCIe core with Avalon interface and Direct Memory Access.

PROJECTS

LumineSense, University of Toronto based venture 2020
Co-founder
- Smart UV lamp for surface disinfection in response to COVID-19.
- Software division: Raspberry Pi programming, sensors integration, and system control using Python.

Autonomous Car Charging Robot 2020
2nd year robotics course project
- Designed boost converter with LTSpice for electric motor.
- System integration (camera, electric motor, microswitches) with the Raspberry Pi using Python.
- PCB design (wiring, soldering, breadboard prototype).

RESEARCH EXPERIENCE

Yan Lab, University of Toronto 2019
Summer Undergraduate Researcher with Prof. Ning Yan (Chem Eng)
Topic: Polyaniline-Nanocellulose-based green films for chemical sensors.
- Designed chamber for monitoring chemoresistance of green semiconductive films and investigated compositions of nanomaterials.
- Data analysis using Python.

AWARDS

MITACS Globalink Research Award [declined] 2020
Engineering Science Research Fellowship (ESROP) [declined] 2020
Faculty of Engineering Dean's Honour List 2018-2020
Faculty of Engineering Admission Scholarship 2018
International Olympiad Research, Taiwan 2016
Tapei Mayor Academic Award, Taiwan 2015

EXTRACURRICULARS

University of Toronto Robotics Association 2019-2020
- SUMO Design Team Member- Electrical Design

Canadian Chinese Orchestra, Markham 2018-2019
- Member (Erhu, Zhonghu)