Guanxiong Chen

Computer Engineering at the University of British Columbia

CONTACT INFORMATION

Address: Box 229, 2205 Lower Mall, Vancouver, BC, V6T 1Z4
Phone: (236) 993 0329   **Email:** chenguanxiong@alumni.ubc.ca

TECHNICAL SKILLS

Electrical

- Oscilloscope
- Multimeter
- Signal generator
- Circuit assembly and debugging
- Circuit Simulation
- Microcontroller programming

Computer

- C and C++
- Assembly
- MATLAB and Simulink
- SystemVerilog
- Mathematica
- Git

- Linux
- Excel
- Html and CSS
- Python

ACADEMIC STATUS

Academic Program
- 6 of 12 academic terms completed
- Anticipated date of graduation: May, 2021

Co-op/Internship Status
- Available for 4 months beginning September, 2019

TECHNICAL PROJECTS

Simple Image Processing SoC (CPEN 311, The University of British Columbia) — March 2018
- Implemented a system used for accelerating image rotation on a DE1-SoC board independently over 2 weeks
- Used Intel Platform Designer (QSys) to build the system consisting of a NIOS II-e processor, an Avalon Interface, a RAM, a VGA core, and FPGA based accelerators
- Wrote accelerators in SystemVerilog
- Wrote code in C to test accelerators' performance

Simple RISC Machine (CPEN 211, The University of British Columbia) — October 2016
- Implemented a soft processor with a controller, a RAM, and a datapath (including ALU, instruction decoder, etc.) on FPGA on a DE1-SoC board
- Wrote code in Verilog, simulated the machine's functionality with ModelSim, compiled code with Quartus
- Completed the project with a partner in 3 weeks

2-DOF PID-controlled Robotic Arm (ELEC 391, The University of British Columbia) — January 2018 – April 2018
- Designed a control system for a 2-DOF robotic arm with a partner to complete a laser lightshow
- Simulated the controller and plants in Simulink and MATLAB
- Measured DC motors' parameters and compared their performances
- Visualized performance test results with MATLAB and presented to 3 teammates and the instructor
- Implemented PID control algorithms in C++ on a ATmega2560 microprocessor

Autonomous Rover (ELEC 291, The University of British Columbia) — March 2017 – April 2017
- Programmed a 8051 microcontroller in C to make a robotic vehicle follow designated paths constructed from AC-current-carrying guide wires autonomously
- Assembled the vehicle's circuit with multiple IC components (Op-amps, voltage regulators, H-bridges, etc.)

- Designed and implemented algorithms for the vehicle to receive commands from guide wires, using principles similar to the UART protocol

Reflow Oven Controller (ELEC 291, The University of British Columbia)   **February 2017**
- Programmed a 8051 microcontroller with Assembly language to control an oven using pulse-width modulation, and wrote functions for microcontroller's communication with LCD, temperature sensor, and PCs
- Worked in a team of 6 students, delegated most of the programming tasks along with a partner
- Designed and implemented software features for concerns regarding users' safety
- Completed the software portion of the project report (including block diagrams) using format mandated by instructor

OTHER WORK EXPERIENCE

HelpHub (Vancouver, British Columbia)   **September 2015 – September 2017**
Tutor
- Helped one student thoroughly study 5 mock exams on multivariable calculus within 3 hours before final exam
- Helped students master advanced concepts of vector calculus and linear algebra within limited time slot

VOLUNTEER WORK EXPERIENCE

UBC Student Housing and Hospitality Services (Vancouver, Canada)   **August 2016 – September 2017**
Opening Day Volunteer
- Assisted the university residence's front desk team to sort students' luggage on the Move-in Day efficiently
- Answered questions from first year students regarding residential issues in professional and welcoming manner

Beijing National Day School International Choir (Beijing, China)   **September 2014 – June 2015**
Usher
- Involved in preparation for concerts, responsible for stage lightning and emergence response
- Dealt with medical emergencies professionally and according to procedures

EDUCATION

The University of British Columbia   **September 2015 – May 2021**
- Bachelor of Applied Science / Computer Engineering
- Accumulative GPA: 88.5% (A)

AWARDS

Trek Excellence Scholarship   2017

Chancellor's Scholar Award   2015

PROFESSIONAL AFFILIATIONS

APEGBC Membership   2015 - Present

ACTIVITIES AND INTERESTS

- Video games
- Comics
- Movies