Siang Lim

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EDUCATION

University of British Columbia
Chemical Engineering,
Computer Science (Minor)
Graduation: May 2017

CGPA: 4.20/4.33 (88%, 'A' average)
Honors: Dean's List, NSERC USRA

SKILLS

Solid understanding of chemical engineering and strong fundamentals in computer science and coding

Front-End Development: HTML, CSS, JavaScript. **Back-End Development:** Rails, Node.js, SQL

Scientific Computing:
MATLAB, Python, SciPy

Software Development and Tools:
Java, C, git, Linux, Excel VBA

Chemical Engineering:
ASPEN Plus, Simulink, Solidworks

ACTIVITIES

UBC Chem-E-Car, Vice-Captain

Chemical Engineering Undergraduate Student Club, Webmaster

UBC Thunderbird Marching Band, Tuba/Sousaphone Player

AWARDS

UBC Graham Somerville Scholarship
Awarded on the basis of academic standing on recommendation of the Department.

UBC Ying Ying Zee Chan Scholarship
Student with first class standing and chosen by class and faculty to be most helpful to others academically.

AIChE Donald F. Othmer Sophomore Academic Excellence Award
Chapter member with the highest GPA, on recommendation of the Chapter Advisor.

RECENT WORK EXPERIENCE

FortisBC Inc. — Energy Solutions Team
Engineering Intern - Summer — May 2016 – Sept 2016

- Refined cost estimation algorithms for gas pipeline installation in residential properties, leading to improved accuracy in a new Online Service Application tool.
- Developed business intelligence and data analytics tools in *Excel* and *VBA* for FortisBC's energy conservation programs and optimized administrative workflow.

UBC MathBio Group — Vertex Dynamics Models
Research Assistant (Computational) — Sept 2015 – Current

- Conducted computational research on mathematical models for coupling protein signaling and mechanical deformation during *Drosophila* embryo development.
- Built simulations of epithelium cells using vertex-based models and coded efficient ODE solvers and data visualizers in *Python* using *Numpy*, *Pandas* and *matplotlib.*
- Specifically, the project aims to extend a 4-cell T1 transition model described in *Lan et al. (2015)* to capture higher-order behaviour and patterns known as *rosettes*.

UBC Dept. of Computer Science — Programming Course Staff
Co-Lead TA (Intro to C Programming) – 3 Terms — Jan 2016 – Current

- Assisted first-year engineering students with understanding technical concepts and helped debug their *C* code for UBC's introductory programming course.
- As Marking Lead TA, coordinated a team of 40 TAs that handled over 600 students, ensuring consistent grading practices across different lab sections.

Mantra Energy, Vancouver — Clean-tech Startup
Engineering Intern (CO_2 Conversion) — Sept 2014 – Dec 2014

- Assembled and operated electrochemical reactors to measure catalyst performance for CO_2 electro-reduction reactions.
- Developed a *VBA* interface to streamline data collection which improved the experimental procedure from minutes to seconds.

TECHNICAL PROJECTS AND LEADERSHIP

UBC Chem-E-Car Design Team — Vice-Captain

- Created team website using the Bootstrap framework.
- Built a public-facing, expense tracking web app using *Ruby on Rails*.
- Developed online tutorials for new team members. Trained junior webmasters and ran workshops on introductory web development: *git*, HTML, CSS etc.
- Raised $50,000 in grants and corporate sponsorship. Expanded team from 7 to ~40 students in 2 years; streamlined organizational structure and leadership roles.

Craft Beer Brewing Automation — IoT App Project

- In progress: design and development of an automated beer brewing system with various controllable parameters, coupled to a web and mobile interface.
- Planned completion by November 2017, in conjunction with the *2017 AIChE National Mobile Device App Competition* in Minneapolis, MN.
- Hardware: *Arduino* microcontroller with temperature, pH, density probes and other sensors. Software: *Node.js, MongoDB* backend with a *RabbitMQ* messaging server.

CPSC 314: Computer Graphics — Rendering and Modeling

- Modeled a star-nosed mole in *three.js* using 4x4 transformation matrices to position and transform unit cubes. Model was inducted into the course's online hall of fame.
- Designed an interactive FPS game using *WebGL* (available on website).
- Received an 'A+' grade, class rank #6 out of 86 students.