JUSTIN LAM

MECHATRONICS ENGINEER, EIT

604-219-1148 • contact@justinmklam.com • www.justinmklam.com

TECHNICAL SKILLS

Mechanical

- SolidWorks, Fusion360
- Autodesk CFD, Sim. Mechanical
- Finite Element Method Magnetics
- Design for rapid prototyping methods (laser/water-jet cutting, CNC, 3D printing, sheet metal)

Electrical/Firmware

- Schematic Capture/PCB Layout in Altium
- Design and assembly of digital circuits and PCBs
- Programming of Arduino, STM32

Software

- Python, C, C#, C++
- Data analysis and visualization in Python, MATLAB/Octave, VBA
- Signal processing in Python, MATLAB/Octave

WORK EXPERIENCE

MistyWest

Mechatronics Engineer *January 2015 – Present*

- Performed detailed mechanical design and simulations for various products
- Executed final assembly, testing, and integration of products for delivery to clients
- Communicated with local and offshore suppliers for parts and fabrication

Arbutus Medical Drill Cover

Biomechanical Engineering Research Assistant, Co-op *May 2014 – August 2014*

- Designed and conducted a user study with orthopaedic surgeons to evaluate the drilling performance of hardware power drills in comparison with commercial surgical and manual hand-crank drills
- Collaborated with orthopaedic surgeons to replicate clinically relevant drilling scenarios

MEA Forensic Engineers and Scientists

Research Assistant, Co-op *May 2013 – December 2013*

- Conducted 1630 helmet impact attenuation tests to measure the effect of age and use on bicycle helmet foam
- Assisted in protocol development of the helmet and foam core impact attenuation tests
- Constructed a temperature controlled test environment to mitigate the effect of heat on helmet foam during the summer months

PUBLICATIONS

Annealing Plastic for Stronger Prints

Hackaday - Assessing the sous vide cooking technique for annealing 3D printed plastics. *2017*

Surgical Device Innovation for Low Resource Settings: An Alternative for Bone Drilling

Abstract published in the Canadian Journal of Surgery *2015*

Podium presentation at Bethune Round Table and UBC Orthopaedics Research Day *2015*

AWARDS

NSERC Industrial Undergraduate Student Research Award
Awarded to stimulate research in the natural sciences and engineering *2015*

Teach It! And Hand Tools Only Contests – 1st Prize
Awarded for bamboo bicycle project, hosted and awarded by Instructables *2014*

1Minute1Slide Presentation Contest Winner
Open to undergraduate and medical students, hosted by Vancouver Coastal Health *2014*

Engineers In Scrubs Undergraduate Research Award
For academic excellence, quality, and fit with the applicant's career goals and aspirations *2014*

Scotiabank Half-Marathon – 2nd Place
Hosted in Vancouver, BC. Under 19 Age Category *2012*

BC Hydro President's Scholarship
For outstanding community leadership and academic achievement *2012*

Sir John A. MacDonald Leadership Scholarship
For excellence in leadership demonstration and community involvement *2011*

BC Provincial Race-Walking – 5th Place
Hosted in Vancouver, BC. Under 18 Age Category *2011*

CERTIFICATIONS

Certified SolidWorks Associate
License C-FXBGNRAXUG *2015 – Present*

ORGANIZATIONS

Engineers & Geoscientists of British Columbia
Registered Engineer in Training *2011 – Present*

EDUCATION

University of British Columbia
BASc in Mechanical Engineering with Specialization in Mechatronics *September 2011 – April 2016*