

Tyler Wong

New Grad, Electrical Engineering

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SKILLS

Design + Prototyping	- FMEA, DFA/DFM, PCB, bring-up, FPGA, 3D Printing, Waterjet, Shop Tools
CAD Tools	- SolidWorks, KiCAD, MATLAB, LTSpice, LabVIEW, SketchUp
Languages	- C/C++, Python
Office	- Git, Slack, Google Suite, Microsoft Office, Excel, Kanban

EDUCATION

University of British Columbia

Bachelors of Applied Science, Electrical Engineering
Bachelors of Arts, Literature (via dual degree program)

Graduating April 2023

WORK EXPERIENCE

Berlinguette Research Group

Mechatronics Intern

September 2020 – August 2021

Vancouver, BC

Robotics Development Platform (see [project details](#))

- Identified a workflow issue, developed a solution, pitched it to the team, and obtained support and resources for execution.
- Built integrated mechatronics development platform for new workflow which halved engineering-work-related downtime.
- Designed safe and intuitive custom motor/air/vacuum control boxes using FMEA and user-testing to enable design work.
- Proved efficacy of new workflow by resolving longstanding in-house design issue: glassware capping/uncapping.

Conductivity Testing Robot (see [project details](#))

- Designed mechanical probe/slide-handler interface while preserving mechanical requirements of integrated system.
- Wrote software package for hardware module at high abstraction level to enable integration with complex workflows.
- Drove collaborative discussion of project requirements to ensure effective support of ongoing research objectives.

TECHNICAL PROJECTS

Lab in a Pack Device (see [project details](#))

September 2021 – April 2022

- Led team formation, goal setting, planning, and external communications to progress client goals within limited scope.
- Developed and executed a component acquisition strategy to secure project outcomes during the global chip shortage.
- Assembled, troubleshooted, and documented PCB device with over 300 individual components for final project delivery.

Custom Motor Prototype (see [project details](#))

January – May 2020

- Led team in motor research, design, verification, manufacture, and assembly to produce working BLDC motor.
- Utilized CAD (SolidWorks, FEMM), 3D printing, waterjet cutting, and shop tools to assemble a robust working motor.
- Incorporated DFA/DFM principals into design to produce working prototype faster than 30+ competing teams.
- Communicated motor design to electrical sub-team to co-develop controls algorithm and motor-driving electronics.

Coin Picker Robot

March – April 2019

- Designed and implemented circuitry to drive motors, servos, metal detector, and magnet for coin-collecting task.
- Drew diagrams by hand to document full design stack including circuitry, software, and high level system block diagrams.
- Introduced team of six to Git version control practices to produce embedded C/C++ control behaviour.

ADDITIONAL EXPERIENCE

Electrical and Computer Engineering Student Society

VP External Affairs, Sr. Volunteer

September 2019 – April 2021

Vancouver, BC

- Organized trip to Silicon Valley; enabled 30 students to tour bay area tech companies and network with UBC alumni.
- Founded video tutorials program; managed production of learning materials to complement gaps in program curriculum.