Tyler Wong

New Grad, Electrical Engineering

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SKILLS

Design + Prototyping	-	FMEA, DFA/DFM, PCB, 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 — **Graduating April 2023**

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

WORK EXPERIENCE

Berlinguette Research Group — **September 2020 – August 2021**

Mechatronics Intern — *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, tested, and documented a PCB device with over 300 individual components for final presentation and 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 — **September 2019 – April 2021**

VP External Affairs, Sr. Volunteer — *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.