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, FEMM, SketchUp
Languages	-	C/C++, Python, Verilog/VHDL
Office	-	Git, Slack, Google Suite, Microsoft Office, Excel

EDUCATION

University of British Columbia **Graduating April 2023**
Bachelors of Applied Science, Electrical Engineering
Bachelors of Arts, Literature (via dual degree program)

TECHNICAL PROJECTS

Robotics Development Platform (see https://projects.tylerqwong.me/ada/mimic-platform-project) **January – August 2021**
- Built integrated mechatronics development platform for new workflow which halved engineering-work related downtime.
- Designed custom work fixtures using FMEA and user-testing to enable safe manual and automated testing of design items.
- Oversaw first implementation of new workflow resolving longstanding in-house design issue: glassware capping/uncapping.

Lab in a Pack Device (see https://projects.tylerqwong.me/lab-in-the-pack/) **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.

Conductivity Testing Robot (see https://projects.tylerqwong.me/ada/probe-station) **September – December 2020**
- Designed mechanical probe/slide-handler interface while preserving mechanical requirements of integrated system.
- Developed software package for instrument control at abstraction level to enable integration with complex workflows.
- Drove collaborative discussion of project requirements to ensure effective support of ongoing research objectives.

BLDC Motor Driving PCB (see https://projects.tylerqwong.me/design-studio-2/pcb-redesign) **April – June 2020**
- Led pivot from project course to personal project after course cancellation due to COVID-19.
- Re-vamped existing circuit diagram for unexpected constraints and set up new cloud-based format.
- Collaborated with others to produce PCB in Altium up to wire routing stage.

RoboMaster Documentation Project (see https://projects.tylerqwong.me/robomaster-pdb/doc) **February – March 2020**
- Audited out of date documentation set for squad of engineering design competition robots.
- Independently researched a solution, specified a workflow, presented findings to team, and received resources for project.
- Managed project in-person and remotely up to submission deadline to successfully obtain travel assistance funding.

Custom Motor Prototype (see https://projects.tylerqwong.me/design-studio-2/demo) **January – May 2020**
- Led mechanical sub-team in BLDC motor research, design, design verification (simulation), manufacture, and assembly.
- Incorporated real data, simulated data, and design-for-assembly/design-for-manufacture principals into design.
- Utilized CAD (SolidWorks, FEMM) and shop (waterjet cutter, 3D printing) tools to assemble a working prototype.
- Communicated motor design to electrical sub-team to co-develop controls algorithm and motor-driving electronics.

ADDITIONAL EXPERIENCE

Electrical and Computer Engineering Student Society, UBC **September 2019 – April 2021**
VP External Affairs, Sr. Volunteer
- Co-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.