# Glyn Han

## Electrical Engineer

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I am an engaging team player who enjoys solving complex problems and testing and validating various systems. I am a great candidate for detailed work, fast paced environments, and multitasking various projects learned through high performance cultures such as Tesla.

## Education

**Bachelor of Applied Science in Electrical Engineering** Sep 2012 – Apr 2018 (expected)
University of British Columbia, Vancouver BC

- Completion of electrical engineering degree with Co-op program (16-month)
- Involvement: UBC Aero Design | IEEE, Student Member

## Skills

- Failure/root cause analysis
- AC / DC circuit testing
- Oscilloscope
- Signal Generator
- Prototyping
- Solidworks CAD
- VHDL / Hardware Description
- R / MATLAB / Simulink
- PSIM / Circuit Maker
- Eagle / Altium
- C / 8051 Assembly
- Machine shop
- Hands-on skills
- Strong attention to detail
- Conversational Mandarin

## Experience

**Tesla, Inc.** May 2016 – Dec 2016
Quality Engineer Intern – Powertrain Electrics

- Sustained the production and field level quality of the Gen3 Charger (a complex, high powered electromechanical assembly) through root cause analysis
- Investigated and organized board level electrical failure analysis on international chargers
- Conducted problem solving activities on issues including setting up/executing experiments to find or confirm root cause
- Developed, and standardized diagnostic/testing procedures for engineering technicians
- Streamlined technical investigation reports detailing high powered 3phase/single-phase AC, Supercharging simulation, mechanical stress, and dimensional test results/discoveries ensuring conclusive root cause deductions
- Collaborated with multidisciplinary teams to identify and prevent electrical/mechanical defects pertaining to production and field chargers
- Decreased overall Gen3 charger defects/returns rate 2-3 months ahead of schedule

**Rokstad Power Corp.** Sep 2015 – Apr 2016
Project Estimator Intern – Customer Engagement

- Analyzed and developed job documents including Request For Quotations (RFQ), Request For Tender (RFT), Request For Proposals (RFP), and Prequalification Forms
- Developed quantity metrics and cost analysis for labor, equipment, and procurement for high voltage transmission project proposals (with valuation over $1B)

Project Manager/Quality Intern – Southern AB Transmission (Altalink)

- Developed bill of materials (BoM) – approximately $10M 138kV transmission line project
- Validated site materials with BoM and tended to missing items; decreasing risk and delays
- Confirmed and signed off on verification of quality standards on over 80 steel monopole assembly components; cutting evaluation time by ~50%

## Projects

**(Current Capstone Project – Digital Glass (Client: UBC Studios)** Sep 2017 – Present
Consumer Product - Project Manager/Electrical Hardware Engineer

- Team representative for weekly meetings and project updates at EML (Emerging Media Labs), in charge of Minutes of Meetings and work delegation to keep organized
- Improving current Lightboard (instructional platform) by developing a digital writing tool with user interfacing and to eliminate the need for expensive specialized glass, heavy materials, and unnecessary effort to erase fluorescent ink.
- Designing LED current driver and power circuit for the pen to be able to run wirelessly.

**Tele-Operated Master/Slave Robot Arm** Jan 2015 – Apr 2015

Solidworks & Machine Shop Design

- Designed and constructed a brush DC motor from the ground up meeting minimum requirement of < 1A starting current. This was made out of 3d printed commutators and with water jet cut steel laminations
- Developed a planetary gear system with a 1:64 gear ratio which cut the motors speed from >1000RPM down to 16RPM which increased the torque
- Constructed a 5-bar configuration robotic arm system complete with a base, platform, 4 aluminum arms, 2 actuators (slave output) and a ~1:4 size 3d printed model of a master arm to send the input

**Apache Flight Control System** Sep 2014 – Nov 2014

MATLAB/SIMULINK Control System Design

- Developed a PID Controller capable of controlling and stabilizing a simulated Apache Helicopter that utilizes electrical main and tail rotors
- Designed and adjusted PID gains capable of handling the marginally stable helicopter system modelled by block diagrams on Simulink
- Determined transfer functions of the helicopter and used control theory such as root locus and Nyquist criterion to analyze stability of the modelled system, resulting in a stable system with only 7.08% error

**Pong Game** May 2014 – Jun 2014

VHDL Modeling on FPGA

- Developed an FPGA Pong Game using VHDL on the Altera DE2 board
- Generated the pixel field in which each player controls 1 paddle, and have top and bottom boarders that deflecting the 'puck'
- Included an extra feature where the game constantly speeds up to increase the difficulty of the game over time; received 10% bonus

**Electromagnetic Tether Robot** Feb 2014 – Apr 2014

MOSFET Differential H-Bridge Motor Control

- Developed a microcontroller-based, battery operated electromagnetic tether robot capable of following user's controller
- Designed motor system controlled by a MOSFET differential circuit H-bridge configuration along with magnetic transmitters using ferrite inductors in RLC

**Reflow Oven Controller** Jan 2014 – Feb 2014

Temperature Sensor Circuit Design

- Developed temperature sensor for an oven controller able to reflow solder any custom PCBs.
- Designed and soldered a PCB board for LM355 temperature sensor, door sensor, and k-type thermocouple wires.

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## EXTRACURRICULAR

**UBC AeroDesign – SAE Aero Advanced Class Project** Sep 2017 - Present

- Developing RF telemetry unit and fabricating fibreglass wings and fuselage (R&D) for potential advanced class 2019 competition entry.

**IEEE UBC Chapter – Student Society** Sep 2017 – Present

- Organized engineering networking events and supported student involvement for future employment prospects.