GLYN HAN

ELECTRICAL ENGINEER

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I am an engaging team player who enjoys solving complex problems and testing and validating various electrical systems. I am a great candidate for detailed work, fast paced environments, and multitasking as evidenced by 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
- High Voltage Testing
- Oscilloscope
- Signal Generator
- Prototyping
- Solidworks CAD
- VHDL / Hardware Description
- R / MATLAB / Simulink
- PSIM / Circuit Maker
- Altium Designer 16
- 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 electric vehicle chargers
- Performed problem solving activities on issues including practical methodologies such as setting up and 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
- Gained multidisciplinary experience via working with multiple to identify and prevent electrical/mechanical defects pertaining to production and field chargers
- Decreased overall Gen3 charger defects/returns rate 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

Project Coordinator/Electrical Hardware Engineer (Altium PCB Design)

- Team representative for weekly meetings and project updates at EML (Emerging Media Labs), in charge of minutes during 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 PCBs on Altium 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.

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.