

TANNER MACKENZIE COLLIN

linkedin.com/in/tannercollin

resume@tannercollin.com

www.tannercollin.com

OBJECTIVE

Seeking work as an electrical engineer, computer engineer, or software engineer.

SUMMARY OF QUALIFICATIONS

Technically-proficient engineer with strong academic qualifications and valuable experience gained through extracurricular activities and programs while a student.

Technical Skills: Surface-mount and thru-hole soldering, analog and digital circuit and PCB design, DC-to-DC converter design, embedded systems development on the STM32, TI MSP430, Cypress PSoC 1, ADI Blackfin, and Arduino microcontrollers. Experience using multimeters, oscilloscopes, VNAs, logic analyzers, and ESD guns.

Computer Skills: Altium Designer, OrCAD, IAR Embedded Workbench, Vim, Eclipse-based IDEs, MATLAB, Excel, Word, PowerPoint, VMware, and Adobe Photoshop. Mastery of Windows, proficiency in Linux command line and Debian-based distros. Can program in C, C++, JavaScript, Python, Java, MATLAB script, and use version control implemented with Subversion and Git.

General Skills: Strong communication, planning, teaching, and organization skills. Comfortable leading or being part of a team. High attention to detail.

EDUCATION:

University of Calgary

Graduated with Distinction, GPA of 3.533 / 4.0

September 2011 – April 2016
Calgary, AB

Electrical engineering with a minor in computer engineering.

Awards and scholarships:

- Dean's List for the 2012/2013 academic year
- Schulich School of Engineering Dean's Entrance Scholarship
- President's Admission Scholarship
- NSERC Undergraduate Student Research Award
- TransAlta Corporation Memorial Scholarship
- Jason Lang Scholarship

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PROFESSIONAL EXPERIENCE**Electrical Engineer**

Opener Solutions – Electric aircraft start-up in Silicon Valley

May 2016 – July 2016

Palo Alto, CA

- Designed the circuit, schematic, and PCB for an inertial-measurement unit daughterboard that contained a gyroscope, magnetometer, and accelerometer.
- The sensors had to be kept at a constant temperature of 70 °C using resistors and a PID loop.
- Developed firmware for the PID loop and manually tuned it.
- Ported custom drivers from the STM32F4 to the STM32F7 microcontroller.

Electrical Engineering Intern

Pason Systems Corp. – Oil drilling instrumentation company

May 2014 – August 2015

Calgary, AB

- Designed the circuit, schematic, PCB, and firmware for a simulator board for one of their products.
- The board simulated 10 analog, 4 digital, and 2 quadrature outputs, and 10 power potentiometers.
- The board's STM32F4 microcontroller received data from a mezzanine Raspberry Pi computer.
- Developed firmware for their variable frequency drive AutoDriller for oil drilling.
- Developed software for viewing and converting diagnostic logs for their AutoDriller.
- Programmed test clients for a coding contest that Pason hosts for students at the University of Calgary.

Undergraduate Summer Researcher

Fully Integrated Systems and Hardware (FISH) Lab

May 2013 – August 2013

University of Calgary

- Tested the efficiency of wireless sensor network topologies on Crossbow IRIS motes.
- Wrote the tests on the TinyOS operating system in the nesC programming language.
- Characterized the motes' antennas with a vector network analyzer.

EXTRACURRICULAR EXPERIENCE**Electrical Engineering Team Member**

U of C Solar Car Team

September 2011 – January 2014

University of Calgary

- Led the implementation of the car's Maximum Power Point Trackers (MPPTs).
- Modified previous trackers to meet *World Solar Challenge 2013* regulations.
- Redesigned the trackers' PCB and hill climbing algorithm to increase efficiency.
- Assembled 20 complete MPPTs by hand soldering all of the thru-hole and surface-mount components.

Leader

Many Mini Bots

January 2013 – April 2016

University of Calgary

- Small robotics club with the goal of making a swarm of inexpensive robots that work in a cluster.
- Contributed to the mechanical design of the robots' chassis and gearbox, and motor controller PCB.