

WORK EXPERIENCE

Airbus Commercial Aircraft

July 2018 – Present

Flight Physics and Landing Gear Intern

- Leading Flight Test Instrumentation development of the AlbatrossONE Semi-Aeroelastic Hinge demonstrator, ensuring that all mission- and flight-critical data is collected, filtered, stored, and transmitted to the ground
- Developing various custom hardware and software tools for the AlbatrossONE, including: a long-range 433MHz telemetry system, an I2C communications buffer, a Python-based ground station, and a MATLAB-based image processor
- Tuning an A320neo taxi heading controller using derivative-free optimization methods and machine learning; by using regression, swarm intelligence, and evolutionary algorithms, reward functions were maximized while accounting for multiple design requirements and environmental perturbations
- Performing data analytics on simulation data to validate A350 landing gear retraction time upgrades; found design issues by creating informative graphs with statistical data, and proposed logic changes so that the new triggering sequence occurs within design parameters

Cascade Aerospace

January 2018 – April 2018

Engineering Co-op

- Applied engineering design principles to develop missionized aircraft modifications; met TCCA, FAA, EASA, and military airworthiness requirements for supplementary type certification
- Supported a countermeasure integration project by liaising between suppliers and the design team, and saved upwards of \$10,000 and weeks of manufacturing time by optimizing component design

SWITCH Materials

April 2017 – August 2017

Electronics and Fabrication Co-op

- Assembled, tested, and debugged embedded control circuits for photo-electrochromic smart glass, and ensured that automakers received fully functioning demonstration units
- Created passive RC and LC filters to adjust filtering and regulator feedback, so that the same control circuit could be used at different voltages, and prevented expensive redesign of the custom PCB

Connexus Industries

May 2016 – December 2016

Mechanical Designer

- Designed and prepared drawings of chains, sprockets, conveyors, and metal detectors, and gained competency of GD&T and mechanical design practices

SKILLS

Software: SolidWorks, Simulink, SCADE, Mission Planner, Eagle, Unity, DAQFactory, IAR Embedded Workbench

Electronics: UART, I2C, SPI, BTLE, WLAN

Languages: Python, MATLAB, JavaScript, Google Scripts, C, C#, HTML

Manufacturing: Laser-cutter, waterjet-cutter, CNC machines, 3D printers, PCB SMD assembly

EDUCATION & CERTIFICATIONS

University of British Columbia

2014 – Present

BASc Mechanical Engineering, Mechatronics Engineering Option

Transport Canada

2016 – 2019

Special Flight Operations Certificate, Restricted Complex

Industry Canada

2017

Amateur Radio Operator Certificate, Basic with Honours

AWARDS & ACHIEVEMENTS

Unmanned Systems Canada Competition – 3rd place

2018

Garreth Ewan Thomas Memorial Award (community leadership)

2017, 2018

Lloyd Scott Memorial Award (passion for learning)

2017

UBC Undergraduate Student Academic Achievement Award

2017

Eric P. Newell Leadership Award in Engineering

2016

ACTIVITIES & INTERESTS

Geopolitics | Contemporary and legacy, military and dual-use technologies | Virtual and augmented reality

Airplanes and aviation | Sea kayaking, backcountry hiking, bouldering | Taekwondo