Raymond Yu

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WORK EXPERIENCE

Airbus Commercial Aircraft — **July 2018 – August 2019**
Flight Physics and Landing Gear Intern

- Led Flight Test Instrumentation development of the AlbatrossONE Semi-Aeroelastic Hinge demonstrator, and ensured that all mission- and flight-critical data was collected, filtered, stored, and transmitted to the ground
- Developed various custom hardware and software tools for the AlbatrossONE, including: long-range telemetry antennas, a flight data recorder PCB, a ground telemetry station, and an onboard camera computer vision program
- Tuned an A320neo heading controller using derivative-free optimization methods and machine learning; by using swarm intelligence, evolutionary algorithms, and component analysis, reward functions were maximized while accounting for numerous design requirements and environmental perturbations
- Performed data analytics on handling qualities simulation data to validate A350 XWB landing gear retraction time upgrades; by creating meaningful statistical models for Chief Engineers, new sensor logic was proposed and implemented so that the triggering sequence occurred safely 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 supplemental 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

- Tested and debugged embedded control circuits for photo-electrochromic smart glass
- 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: Simulink, SolidWorks, Mission Planner, Unity, DAQFactory, SCADE, IAR Embedded Workbench
Electronics: UART, I2C, SPI, BLE, WLAN, MAVLink
Languages: Python (Pandas, Matplotlib, Scikit-learn, BeautifulSoup), MATLAB, JavaScript, Google Scripts, C, C#, C++
Manufacturing: Laser-cutter, waterjet-cutter, CNC machinery, 3D printers, PCB SMT assembly

EDUCATION & CERTIFICATIONS

University of British Columbia — 2014 – Present
BASc Mechanical Engineering, Mechatronics Engineering Option

Transport Canada — 2017 – 2019
Special Flight Operations Certificate, Restricted Complex

Industry Canada — 2017
Amateur Radio Operator Certificate, Basic with Honours

AWARDS & ACHIEVEMENTS

Airbus UK Awards for Excellence – AlbatrossONE — 2019
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

Airplanes and aviation | VR and AR app development | Building and flying drones | DIY projects