THE UNIVERSITY OF BRITISH COLUMBIA

Luc Goldstein

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TECHNICAL SKILLS

Software
- Pix4D
- ArcGIS / QGIS
- MATLAB
- Windows / Linux
- Python / C / Java script
- Git

Electrical
- SMD Soldering
- Signal Analysis
- Power Electronics
- Arduino / Raspberry Pi

Mechanical
- Metalworking / Water jet
- CNC Machining
- 3D Printing / laser cutter
- Woodworking
- SolidWorks / Inventor
- AutoCAD

Certifications
- Full US Driver's license
- Amateur Radio license
- UAV ground school
- US / French Citizenship

EDUCATION & CO-OP STATUS

University of British Columbia — **September 2016 – May 2021**

Bachelor of Applied Science - Integrated Engineering (Completed 3rd Year)

(Focus in Electrical & Mechanical)

Co-op Status
- Completed 2/5 work terms; available for up to 8 months beginning January, 2020

Hickman High School — **August 2013 – May 2016**

TECHNICAL WORK EXPERIENCE

Zaber Technologies (Vancouver, BC, Canada) — **May 2019 – December 2019**

Mechatronics Engineering Co-op Student
- Worked with the testing team to complete several device tests on a weekly basis allowing for customers to get the information they needed and product launches to stay on schedule
- Overhauled existing tests to improve reliability, automation, and ease of use resulting in faster turnaround for tests
- Developed new tests for Mechanical and electrical testing of devices allowing development teams to make necessary changes, and new information to be published.
- Helped develop and deploy an IoT testing framework with Raspberry Pis and a backend server to deploy, manage, and monitor lifetime tests of devices

Evo Carshare Parkade detection system (EVO) — **October 2018 – August 2019**

Engineering Contractor
- Designed and built a system capable to detecting impending damage from a bike on the roof of the car with 95% accuracy
- Consulted with stakeholders at Evo to ensure all needs were met and our design minimized integration costs, required no parkade installation, and didn't compromise any safety measures of the vehicle
- Presented a solution and proof of concept to Evo Car share and proceeded to obtain a contract for 4 production ready prototypes.
- Delivered and installed prototypes in 4 fleet cars for internal testing and final evaluation

Wellons Canada (Surrey, BC, Canada) — **May 2018 – August 2018**

Engineering Co-op Student

Wellons Canada designs and manufactures thermal energy systems for industries including forestry and oil & gas.
- Built a standardized CAD library of 10,000+ commonly used parts to drastically increased productivity of draftsmen
- Helped build infrastructure for data management systems
- Drafted several standard installation drawings for pipe instrumentation that decreased errors in field installation

University of Missouri (Columbia, Missouri, USA) — **June 2016 – August 2017**

Technical Research Assistant and Drone Pilot
- Traveled around state to meet with agricultural specialists and operate drones to map crop fields
- Stitched 100 image surveys using geospatial methods
- Used OpenCV and built in machine learning algorithms like k-means to count number of plants in a designated area with MATLAB
- Refined and automated soil and plant separation processes and nitrogen stress analysis with MATLAB and ArcGIS
- Scripted MATLAB program to geo-reference drone images in GIS, reducing post-processing time by 80%
- Assisted in data capture methods, planning, and organization using DJI drones to optimize flight time and site visits

STUDENT DESIGN TEAMS

Unmanned Aircraft Systems (UBC UAS) **September 2016 – Present**

Captain (Director) / Aircraft and Systems lead / Pilot

- Core of aircraft build team that constructed two competition ready unmanned aircraft to place 3rd at the 2018 Unmanned Systems Canada student team competition
- Used SolidWorks to design multiple UAV motor mounts, control systems mounts, and payload systems, as well as various stands and cases for ground control systems
- Applied electrical design principles to design power systems optimizing weight and efficiency while minimizing electrical losses
- Configured and calibrated dozens of flight sensors to ensure reliability and precision of autonomous flight
- Managed a team of 38 Students to design and build all aspects of a mission ready system while obtaining and managing funds in excess of $30,000
- Promoted to chief pilot which requires careful logging of every flight and ensuring drones meet Transport Canada airworthiness requirements, as well as training new pilots for both rotary and fixed-wing drones

UBC Rocket **September 2019 – Present**

Guidance and Navigation lead

- Tasked with simulating, designing and implementing a control and stabilization system to guide a 650kg, 8m rocket to 100km altitude
- Designed and built a 2-engine gimbaled test bed aircraft for testing

TECHNICAL PROJECTS

Vertical Take-Off and Landing aircraft (Personal) **June 2018 – August 2018**

- Designed and build a VTOL aircraft capable of vertical take-off with subsequent transition to forward fast flight and then vertical landing
- Implemented custom motor mounts to reduce weight, space, and cost.
- Built off existing airframe and on hand components to greatly reduce development time and costs

Heated Phone Case (UBC) **January 2018 – April 2018**

- Designed and Prototyped an electronic heated phone case to preserve internal battery life during freezing conditions
- Developed an Android App in Java to log and transmit internal phone battery temperature to a Bluetooth Arduino in the case, which controls heating
- Successfully proved concept in working order under freezer test conditions

AWARDS

International Major Entrance Scholarship - UBC **2016**

PROFESSIONAL AFFILIATIONS

Engineers and Geoscientists of British Columbia **2017**

ACTIVITIES AND INTERESTS

- **Columbia Gadget Works** – Past member of a community hacker space that promotes projects from all realms and fosters creativity to help people complete their own projects and participate in group builds. This group formed the foundation for a lot of the DIY and shop skills I've obtained
- **Building and flying remote control aircrafts of all kinds** – Mini-quads, Flying-wings, Full airplanes, FPV racing, and helicopters
- **Biking** – I've done several long-distance rides across Europe and the United States
- **UBC Aviation Club** – A group of like-minded people who have a passion for flight and aerospace. Organized tours of control towers and aviation facilities as well as fly-ins.
- **Photography** – I've enjoyed photography as a way to capture all corners of the earth in ways not normally seen
- **Hiking/Camping** – Avid outdoor explorer trying to find the best views around