Shawn Liu

✉ shawn_liu_3@sfu.ca | 📞 +1 (778) 751 0012
in linkedin.com/in/shawn-j-liu | 🔗 liushawnshawn.github.io

4th year mechatronic systems engineering student at Simon Fraser University. Experienced in designing, prototyping, and testing broad range of engineering applications in impact mechanics, theme park attractions, and robotics.

Work/ Co-op Experience

Robotics Engineer   DaoAI Robotics | 09 – 12/2020

o   Test random bin-picking software applications using a structure light camera technology and a 6-axis robot (UR5).

o   Calibrated 3D camera in preparation for experiments.

o   Assisted in software release by conducting user testing, app encryption, gui translation, and app installer packaging.

o   Conducted experiments to measure the trueness, precision, and accuracy for 3D camera performance evaluation.

o   3D printed tools and camera mountings for lab testing.

o   Drafted English and Chinese documentation for release.

Mechanical Engineer   Dynamic Attractions | 01 – 05/2020

o   Designed various parts and assemblies for rollercoaster's switch-track technology using Autodesk Inventor.

o   Applied advanced modeling technique to create a robust assembly layout that only relied on 2D sketches.

o   Prepared mechanical drawing packages by drafting bill of materials, project information and revision record.

o   Facilitated version control and drawing approval process.

R&D Test Engineer   Shield-X Technology | 05 – 08/2019

o   Conducted oblique impact testing to investigate the effect of linear & rotational impact on various type of sports helmet.

o   Set up lasers and leveling devices to accurately position the test dummy to its designated impact location.

o   Developed five testing methodologies for a newly introduced helmet rating system with high accuracy.

o   Classified and interpreted test data to evaluate each helmet's performance using LabVIEW and Excel.

Education

BASc: Mechatronics System Engineering

Simon Fraser University   01/2017 - Present

o   CGPA: 3.61 / Dean's Honour Roll

o   Minor in Mathematics

School/ Community Involvement

Autopilot Software Lead   Team Guardian

o   Lead and managed the autopilot team to develop the latest UAV technologies for competition.

o   Built a user-interface for the ground control station to monitor the drone parameters.

UX/UI Researcher   SFU OLC

o   Assisted with developing the latest online community website by conducting website review and content porting.

o   Contributed to the testing of new features, including user testing, and tracking databases for usability.

Technical Project Experience

Eco-Friendly Robot Competition

Mechanical Design   12/2018 – 02/2019

o   Implemented a waste collecting robot to differentiate organic/inorganic materials.

3D Camera Field of View Calculator App

Software Development   09/2019 – 12/2020

o   Created a 3D camera FOV calculator for hardware selections & analysis.

Honours & Awards

Ecobot Competition 2nd Place	02/2019
BC Hydro/EGBC Scholarship	12/2018
BC Excellence Award	05/2017
Schulich Leader Nominee	2017

Skillsets

Drafting	MATLAB	Helmet testing
3D Modeling	LabVIEW	Camera design
3D Printing	C++/Python	Robot operation
Version Control	HTML/CSS	Data analysis
Excel	Git	Technical writing