Brandon LAM NGAN CHAN **Mechanical Engineering Student**

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Energetic 3rd year Mechanical Engineering student seeking the opportunity to gain more hands-on work experience. Skilled at 3D CAD modelling, drafting technical drawings, running simulations and analyses including FEA and MATLAB. Great at collaborating with others and working under pressure and short time frames to achieve the best results.

SKILLS

Skills: SolidWorks, Fusion360, AutoCAD, CAM, Machining, Waterjet Cutting, ANSYS Benchwork FEA, C, Python, MATLAB, Arduino IDE, VBA Excel, Microsoft Office (Excel, Word, Powerpoint)
Languages: English, French, Mauritian Creole

EDUCATION

University of British Columbia (UBC), Vancouver — May 2027
Bachelor of Applied Science (BASc) – Mechanical Engineering, Flex Option

- Awards: Outstanding International Student (OIS) award (Top 10%), Dean's List W2022, W2023 (>80% average)

PROFESSIONAL EXPERIENCE

FortisBC, Surrey, BC — May 2024 – Dec 2024
Pipelines Mechanical Engineering Co-op

- Created a tracking system for pipeline projects that tracks the location, updates and gas asset specifications of completed and developing projects using VBA excel; increased pipeline assessment report efficiency by **20%**.
- Collaborated with external teams, including drafting and permitting, to evaluate the impact of pipeline installations and crossings for **>150 locations** as part of the annual FortisBC Electric Management Plan.
- Wrote reusable test documents to ensure pipeline loading stress analysis control as per CSA code requirements.
- Revised and simplified the excel Pipeline Loading Crossing Assessment template to a 2-page report, by **100%**.

Pro-Five Ltd, Ebene, Mauritius — May 2023 – Jul 2023
M&E Consulting Engineering Intern

- Designed technical CAD layouts for plumbing, HVAC and electrical systems using AutoCAD and SolidWorks, 10+ projects.
- Implemented energy audit report at a denim factory, enhancing energy savings efficiency by **~10%**.
- Conducted HVAC survey analysis and design layout calculations using Carrier HAP to determine areas of highest energy losses and feasibility of design and asset installation.
- Completed arithmetic checks of BOQs and BOMs for finalizing tender reports for 10+ projects to determine most optimal tender propositions.

ENGINEERING STUDENT TEAM

UBC Supermileage, UBC, Vancouver — Sept 2023 - Present
Vehicle Mechanics, Steering Project Lead

- Led a 5-person team to design a new Ackerman rack-and-pinion steering mechanism for the Battery Electric Urban vehicle, reducing the effects of rolling resistance by **40%**.
- Conducted MATLAB and FEA stress loading analyses on steering connectors to improve shear strength and increase driver safety.
- Redesigned and manufactured new carbon-fiber composite wheel covers and hub housings for maximum weight savings for the Hydrogen Fuel Cell Prototype vehicle.
- Improved efficiency of vehicles, resulting in an overall 5th place finish at the Shell Eco-Marathon Americas 2024.

PROJECTS

Remote-Rough Terrain Vehicle, UBC, Vancouver — Jan 2024 – Apr 2024
RC vehicle made from wooden chassis, PLA-printed and servo-operated gearbox, steering and braking mechanism designed to race through obstacles and hills. Vehicle later redesigned to extinguish fires through multidirectional hose and water tank.

- Conducted MATLAB and testing analyses to design 2-speed, 10:1 gearbox; fastest vehicle in the competition.
- Designed a servo-operated, dual-axis aiming system; 3D water shooting reaching up to 5m distance.
- Designed a 3D-printed rack-and-pinion steering mechanism, offering Ackerman steering to reduce friction losses.