

Juan Flautero

Vancouver, BC

Canadian Citizen | Available Summer 2026 for Internship

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SKILLS

Design & Analysis:	CAD (CATIA v6, SolidWorks), GD&T, FEA (Ansys), DFM/DFA, Tolerance Analysis
Manufacturing & Prototyping:	Plastic Design for Manufacturing, Sheet Metal Stamping, Waterjet, 3D Printing
Testing & Validation:	MATLAB, Experiment Design, Failure Analysis, C, Circuit Design, UTM

EDUCATION

University of British Columbia	September 2022 - April 2027
<i>Bachelor of Applied Science - Mechanical Engineering, Mechatronics</i>	<i>Vancouver, BC</i>

WORK EXPERIENCE

Mechanical Engineering Intern – Crash Sensing	May 2025 – August 2025
<i>Tesla</i>	<i>Fremont, CA</i>

- Secured factory assembly Plan of Record for a stamped accelerometer bracket by rapidly creating the design, resolving clashes, and driving **Design For Manufacturing** meetings with suppliers for a low unit cost.
- Cut crash hardware validation time from days to hours by rebuilding acceleration-sled test rig electronics and making an **LCD control interface**, enabling rapid iteration at a fraction of the cost.
- Validated data from 65+ crash tests, driving calibration upgrades from prototype to production phase; established a new DAQ pipeline and documentation process improving onboarding efficiency by 20%.

Mechanical Engineering Intern – Thermal/HVAC	January 2025 – May 2025
<i>Tesla</i>	<i>Fremont, CA</i>

- Launched a blow-molded air duct, designing it from concept to production, by applying **GD&T**, tolerance analysis, and DFM/DFA for plastics while collaborating with international suppliers and supporting first builds.
- Unlocked tooling kick-off for production parts by rapidly validating design performance and creating standardized water ingress tests that defined key system characteristics.
- Delivered a **\$300K/year cost-savings** proposal to reduce part complexity by validating a bolted joint using ultrasonic clamp load testing and observing heat-induced plastic creep.

Mechanical Engineering Intern – Chassis	August 2024 – December 2024
<i>Tesla</i>	<i>Palo Alto, CA</i>

- Improved manufacturability and **cut weight of bracket 50%**, by optimizing stamped metal design and airline routing with kinematic studies and **Finite Element Analysis (Structural, Modal, Vibration)**.
- Automated an air suspension reliability test bench by designing a PCB, programming microcontrollers, and developing a custom MATLAB GUI for DAQ-FSM integration.
- Enabled **R&D of a custom inductive sensor** for smart chassis applications by building a 3-axis test rig to quantify alignment error and collaborating with FAEs to validate the sensor design.

ENGINEERING EXPERIENCE AND PROJECTS

Mechatronics Sub-team Lead	September 2023 – Present
<i>UBC Baja SAE</i>	<i>Vancouver, BC</i>

- Managing a cross-functional team of 8 members, coordinating design, testing, and integration of vehicle systems.
- Designed and tested actuation system for electronic suspension by specifying hardware and programming multi-motor control to enable terrain presets and improve driver adaptability.
- Created a waterjet-cut battery tray and chassis mounts by TIG welding the components together and considering safe and efficient integration with the vehicle chassis.

Manual Continuously Variable Transmission (MCVT) – UBC	January 2024 – April 2024
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- Designed and prototyped a servomotor-controlled CVT for a rough terrain RC vehicle, optimizing pulley geometry and material selection within competition constraints.