

Myles Xie

2707-5 Mariner Terr, Toronto, ON M5V 3V6 | (514)-806-9516 | myles.xie@uwaterloo.ca

EDUCATION

UNIVERSITY OF WATERLOO <i>Master of Engineering in Mechatronics Engineering, Graduate Diploma in Design</i>	Waterloo, ON Sep 2020 – Dec 2021
SMITH SCHOOL OF BUSINESS, QUEEN'S UNIVERSITY <i>Master of Management Innovation & Entrepreneurship, Certificate in Disruptive Technology</i>	Kingston, ON Sep 2020 – Oct 2021
QUEEN'S UNIVERSITY <i>Bachelor of Applied Science in Mechanical Engineering, Certificate in Business</i>	Kingston, ON Sep 2017 – Apr 2020

EXPERIENCE

FLASH FOREST <i>Mechatronics Engineering Designer</i>	Toronto, ON Jan 2022 – Oct 2022
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- Designed a drone deployment system through 3D modeling software AutoCAD, Solidworks, and CATIA.
 - Perform FEA by ANSYS to optimize the geometry design. Resulted in an overall 53% stronger device.
 - Perform topology optimization by SolidThinking to iterate hollow structure. Resulted in 27% weight reduction.
- Manufactured the device through CNC machining, injection moulding, low pressure casting, and 3D printing.
 - Operated large scale 3D printers with Carbon Fiber Nylon and MJF PA 12 by AutoDesk Fusion and Cura. Achieved maximum and uniform tensile strengths in all XYZ directions.
 - Operated drilling, milling, lathing, cutting and turning machines to handle 3003, 6061 aluminum alloy and 3K Cross Twined carbon fiber with a precision and tolerance within ± 0.01 mm. Met all engineering requirements.
- Integrated the operating system of the drone (DJI SDK, Pixhawk) to the deployment device system (Arduino, STM 32, ROS). Result in one unified system.
- Programmed PID to control the positions of DC motors and servos, also to synchronize the rotation of brushless motors.
- Supervised bench tests and field operations of cross-country pilots. Resulted in 99% reliability of the main product.
- Performed Need Analysis and Scope Definition, conducted Embodiment Verification and Product Reflection. Increased engineering workflow efficiency.
 - Build analytical models to aid in decision-making, including but not limited to KPI model, Network Diagram, and consumables analysis.
 - Updated Asana and Monday.com timelines, BOM, CAPEX, Design Specification, and safety documentation, etc.
- Translated technical documents and models to easy-to-understand mini pitches. Presented them at meetings, which increased interdepartmental communication effectiveness.
- Communicated with key partners and vendors to ensure manufacturing quality and R&D deliverable dates.

DJI <i>Engineering Project Manager</i>	Shenzhen, China & Kingston, ON Jul 2017 – Aug 2020
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- Designed and manufactured a fully autonomous aerial robot (M300) with a golf ball capture device that has “search-collect-deliver” 3-in-1 function, featuring a polycarbonate lightweight hollow structure and a quick release mechanism.
- Designed and manufactured a double wishbone suspension system to smooth the mecanum wheel drive and camera feed.
 - Calculated and implemented the appropriate spring K value and damping ratio for the shock absorbers.
 - Set front shock absorbers stiffer to minimize braking effect, and back softer to maximize off-road capability.
- Solved a jamming problem that long existed on a delivery system by adding an elastic component to avoid rigid contact.
- Researched and improved the RPM and stability of a flywheel system by increasing the manufacturing tolerance and compression ratio.
- Designed and handcrafted a modified brushless motor with shaft-less rotor housing a slip ring. Achieved 360-degree limitless rotation for a 3-axis gimbal.
 - Customized PCB by Autodesk EAGLE and Fusion 360. Featuring distributed sinks for better heat dissipation. Resulted in 19% battery boost, and easier motor installation.
- Managed the operation of 40+ members, organized weekly Retrospective meeting with written Minutes, controlled project timeline through Gantt & Burndown charts, and set up SMART goals for each department, etc.
 - Reviewed financial statements and analyzed sales revenues, COGS, expenses. Then performed integrations among teams, departments, and third parties, cut expenses down 25% by identifying and eliminating wasteful processes.
 - Communicated and reported milestones + progressions in presentation format with the executives and headquarter.
 - Directed the team to complete the R&D process of 9 key projects ahead of schedules, which shortened the product develop cycle up to 12 months and resulted in overall saving of 5+ million dollars for the specific product lines.

ADDITIONAL INFORMATION

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- **Skills:** SolidWorks, FEA, CNC, 3D printing, Agile, MS, Python, MATLAB, Java, ROS, C++, and R. WHMIS certificated
 - **Languages:** Bilingual in English and Chinese (Mandarin), learning French and Korean
 - **Interests:** Award-winning photographer, spare-time poetry writer, self-made pour-over coffee barista and cocktail bartender