

Romain Tarayre

U.S. Citizen | (514) 651-3074 | romain.tarayre@mail.mcgill.ca | romaintarayre.com

EDUCATION

McGill University • B.Eng Mechanical Engineering

Expected June 2028

Awards: Dean's Honors List (top 10%), Joan Constance Weir Scholar (merit-based)

GPA: 3.98/4.0

Ordinary Differential Equations Teaching Assistant (50 students)

Relevant Coursework: Numerical Methods, Fluids, Thermodynamics, Heat Transfer, Vibrations, Statics & Dynamics, Deformable Solids, Manufacturing & Tolerancing, Materials Engineering, Engineering Economy

SKILLS

CAD/Design: CATIA, 3D Experience, SolidWorks, NX, Onshape, KiCad, 2D technical drawings, GD&T, DFM, DFA

Software: ANSYS Maxwell (AEDT), Fluid Dynamics (CFD), Stress Analysis (FEA), VBA, Python, MATLAB, Betaflight

Manufacturing: FDM, SLA 3D printing, Carbon Fiber Wet Layup, CNC Lathe & Mill, CNC Laser Cutter, PCB, Mastercam (CAM), Sheet Metal Bending, Welding (laser, resistance), Injection Molding

WORK & LEADERSHIP EXPERIENCE

Joby Aviation - Mechanical Design Engineering Intern - Inverter Team

June 2026 - August 2026

- Owned new custom DC link capacitor designed to reduce switching losses and improve manufacturing yield.
- Modeled thermal performance using custom 2D transient heat transfer simulation and validated by building and running high current on an inverter benchtop with a thermally representative prototype.
- Simulated electrical performance using ANSYS Maxwell and validated by building the first prototype.
- Built 4 DC link capacitor prototypes and interfaced with suppliers to bring the assembly into mass production.

McGill Aerial Design Team

September 2023 - Present

Co-Captain

May 2026 - Present

- Directing a 126-member team with a \$60k annual budget to build 15kg mission-purposed drones for competition.
- Oversee major technical decisions including drone form factor, payload mechanisms, and development schedule.
- Rallied team at competition to fully redesign a drone and payload mechanism in 24 hours after devastating crash.

Aerostructures Director

January 2025 - April 2026

- Directed a 45-member subteam in an 8 month design cycle of a 15 kg trimotor tilt-rotor eVTOL aircraft.
- Accelerated 1:3 subscale drone design cycle from 6 to 3 months, leading team to first-ever pre-winter test flight.
- Used hand-calcs to optimize wings for 13 m/s stall speed and 80 lift/drag, validated using ANSYS CFD.
- Achieved 13kg all-up weight with 2.6 meter wingspan with lasercut balsa structure under 14 carbon fiber layups.

Previously Propulsion Member, Payload Lead, Safety Officer, Aerostructures Director

Alton Aviation Consultancy - Aircraft Financial & Technical Services Intern

June - August 2025

- Delivered aircraft maintenance cash flow forecasts for lessor clients by modeling lease and technical specification data and analyzing results to optimize aircraft asset value by \$100k+ on average.
- Collaborated with the senior leadership team to improve proprietary aircraft maintenance cash flow model by automating the client deliverables export process using VBA, saving 30 minutes per project per day.