Spencer Ruby

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EDUCATION

Queens University — Sep. 2024 – May 2028
Bachelor of Applied Science (B.A.Sc.), Mechanical and Materials Engineering — *Kingston, ON*

EXPERIENCE

Owner/Operator – 3D Printing and Prototyping — March 2022 – Present
Ruby's 3D Prints — *Orangeville, ON*
- Designed and fabricated custom mechanical parts using SolidWorks, FDM and SLA 3D printing
- Worked with a diverse range of clients to iterate pre existing designs to based on customers constraints
- Worked with diffrent materials to best match clients need (PLA, PETG, ABS, TPU and ASA)

Owner/Operator – Window Cleaning Company — May. 2024 – Present
Pane Relief Window Cleaning — *GTA, ON*
- Founded and operated a small service business, managing scheduling, pricing, and customer relations
- Trained and supervised employees, ensuring quality control and workplace safety
- Performed equipment selection and maintenance to ensure safe and efficient operation

Queens Formula SAE – Vehicle Dynamics — September 2024 – Present
Queens University — *Kingston, ON*
- Designed front and rear suspension rocker components using SolidWorks
- Performed finite element analysis (FEA) to evaluate stress, deformation, and factor of safety under expected loading conditions
- Collaborated with suspension and chassis team members to ensure compatibility and performance targets
- Manufactured front and rear suspension rockers using waterjet cutting and CNC milling, creating custom Mastercam CNC programs

PROJECTS

Ground Effects RC Car | *Solidworks, Electronics, 3D Printing, Manufacturing* — Dec 2023 – Jan 2024
- Designed a fan-driven aerodynamic system with the goal of generating sufficient downforce to exceed vehicle weight, enabling inverted driving and stationary adhesion
- Modeled and assembled components in SolidWorks
- Researched different RC jet engines taking into account size and weight

1:32 Scale Wind Tunnel | *Solidworks, Arduino, Electronics, 3D Printing, Manufacturing* — Sep 2025 – Dec 2025
- Designed a small-scale wind tunnel for aerodynamic testing of model vehicles
- Integrated Arduino-controlled fan system for adjustable airflow simulating different speeds of the ca
- Modeled structural and flow-path components in Solidworks
- Researched best ways to generate steam for best visual effect

MAAG Prototype Model | *Solidworks, 3D Printing, Assembly* — July 2025 – Aug 2025
- Modified CAD models to prepare components for FDM and SLA 3D printing
- Produced prototype parts using in house 3D print farm and painted using an airbrush
- Implemented continuous delivery using TravisCI to build the plugin upon new a release
- Traveled to Florida to assemble and present the prototype at the NPE Plastics Trade Show

TECHNICAL SKILLS

Design: Solidworks, Mastercam, Fusion 360, Tinkercad
Languages: Arduino, C/C++, Python, MATLAB
Manufacturing: Experience with CNC mill, lathe, laser cutter, drill press, bending, cutting