Daya Silverstein

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PROFESSIONAL SUMMARY

Mechanical Engineering student (BASc, Queen's University, 2028) specializing in design optimization and automation. Skilled in CAD, prototyping, and project execution with experience delivering CAD tools, autonomous systems, and large-scale technical builds. Seeking a Mechanical Engineering internship focused on design and automation.

TECHNICAL PROJECTS

Fusion 360 Assembly Generator – *Fusion 360 API*

Planned and executed development of CAD add-in generating mechanical assemblies from natural-language prompts. Directed coding to implement parametric part algorithms with tolerance analysis and planetary gear customization. Integrated material property databases and automated BOM workflows, reducing conceptual design time 70%.

Autonomous Warehouse Navigation – *A* Algorithm*

Designed obstacle-avoidance and path-planning logic using the A* search algorithm. Directed coding of path smoothing and clearance optimization, achieving 95% route efficiency.

Water Treatment System – *Mechanical Design, Controls*

Designed automated alum-based coagulation unit with torque-controlled mixing. Optimized turbidity removal to 80%+ in standardized tests.

Ballistic Mechanics Analysis – *Dynamics, Structural Analysis*

Designed trebuchets/catapults with <2% trajectory variance using dynamics modeling.

TECHNICAL SKILLS

Design & Analysis: SolidWorks (Intermediate), Fusion 360 (Intermediate), Revit (Intermediate), GD&T;, FEA (Basic), Material Selection
Manufacturing: CNC Machining, 3D Printing, Rapid Prototyping, BOM Creation
Languages: English (Native), French (Intermediate)

EXPERIENCE

Owner / Operator – LocalCareCo Home Improvement | Toronto, ON | 2023–Present

Completed 200+ landscaping, stonework, and carpentry projects on time. Managed budgets up to $8K, applying structural design principles. Increased workflow efficiency 25% via resource and schedule optimization.

EDUCATION

BASc – Mechanical Engineering (2028) | Queen's University, Kingston, ON

Relevant Coursework: Statics/Dynamics, Thermodynamics, Materials, CAD, Manufacturing, Fluid Mechanics

LEADERSHIP & VOLUNTEER

Engineering Tutor – Math/Physics support with custom visual aids.
Kensington Kids Early Learning Center – Digitized 200+ records and assisted facility operations.