

Sean Curtin

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SUMMARY

Mechanical Engineering student at UMass Lowell who ships validated, functional products — from a commercially sold, FEA-optimized automotive part to production automation tools — with hands-on experience at MIT.nano and Dassault Systèmes.

EDUCATION

B.S.E. Mechanical Engineering – Honors | University of Massachusetts Lowell | Expected May 2028

A.S. Mechanical Engineering | MassBay Community College | May 2026 | **GPA: 3.81**

Honors: Highest Honors, President's List (Spring & Fall 2025, Spring 2026) | Phi Theta Kappa (2026)

Certification: [Dassault Systèmes SOLIDWORKS CSWA \(2023\)](#)

SKILLS

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|-------------------------|-----------------------|---------------|
| • SOLIDWORKS | • MATLAB | • GD&T |
| • SOLIDWORKS Simulation | • Python | • DFM |
| • Camtasia | • Reverse Engineering | • 3D Printing |

TECHNICAL TRAINING

NSF-ATE Semiconductor Training @ MIT.nano | May 2026

8-week electronics/photonics course + 15 hours hands-on cleanroom training at MIT.nano in semiconductor packaging and testing; presented to MIT faculty.

HIGHLIGHTED PROJECTS

Automotive Cup Holder for Volvo 960 | Commercial Product | Aug 2025 – Present

Designed a direct-fit accessory using SOLIDWORKS modeling and reverse engineering. Used FEA to diagnose failure modes, reducing peak stress by **80% (FoS > 3.4)**. Completed full product cycle from CAD to **7 prototypes** with DFM; commercially sold on Cults3D (**5 paid downloads & 1.5k views**) with real-world deployment.

Formula 1 Performance Modeling & Simulation | Academic Project | Sept – Dec 2025

Modeled straight-line acceleration using a nonlinear ODE including aerodynamics, rolling resistance, and hybrid powertrain effects; solved in MATLAB (ode45). Validated against 2024 British GP telemetry with **3.7% error**.

PRESENTATIONS

Motorsports Innovation & Modern Vehicle Safety | MassURC @ UMass Amherst | April 17, 2026

Faculty-selected to present research on motorsports technology transfer and ethical/environmental impacts.

WORK EXPERIENCE

Learning Experience Specialist Intern | Dassault Systèmes | Waltham, MA | May – Aug 2026

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Site Manager / Instructor | Paddle Boston | Newton, MA | May 2025 – Present

- Built a Python automation tool saving **20+ hours** of manual data verification by generating **600+ accurate** boat availability matrices, applying complex logic across 7 locations, date ranges, and business rules with **99%+ accuracy**.
- Leads daily operations for high-volume seasonal programs, supervising a team of **10+ staff**.
- Ensures the safety and logistics for **50+ watercraft** and **300+ guests** weekly.