# Brian Sahagian

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Portfolio

## EDUCATION

**Boston University, College of Engineering** Boston, MA
Bachelor of Science in Mechanical Engineering May 2026
GPA: 3.92/4.00 | Dean's List 6/6 Semesters

**Relevant Coursework:**

| | | |
|---|---|---|
| Electromechanical Design | Dynamics | Software Engineering |
| Instrumentation | Manufacturing | Product Design |
| Materials Science | Fluid Mechanics | Heat Transfer |

## WORK EXPERIENCE

**Jaros, Baum & Bolles** Boston, MA
HVAC Engineering Intern Jun – Aug 2025

- Supported HVAC engineers in designing mechanical systems for new and renovated buildings
- Drafted and revised HVAC system layouts for 10+ projects using Revit according to industry standards
- Performed heating and cooling load calculations using Trane TRACE, selected capable equipment
- Verified mechanical installations across 4+ job sites, identifying design-to-field discrepancies
- Contributed to Thermal Comfort renovations for skyrise offices in the John Hancock Tower in Boston
- Designed typical residential HVAC systems for CV Properties 200 Dyer St. apartments in Providence

**Boston University Engineering Product Innovation Center** Boston, MA
Machine Shop Student Advisor Dec 2024 – Current

- Supervise machine shop floor, assist and teach students proper use of machining equipment
- Optimizing engineering project designs with machining-conscious and efficiency-driven decisions
- Enforce strict safety protocols to ensure a secure shop environment, BU SciShield Lab Safety certified
- Perform routine maintenance and cleaning of a personally assigned Bridgeport manual mill

## PROJECTS

**Motor Control Transport Cart,** Electromechanical Design Nov – Dec 2024

- Designed and built autonomous cart to carry unsupported vertical aluminum rod 10 feet without tipping
- Integrated 3D printed components, Arduino, and a rotary encoder, to optimize speed and stability
- Utilize SolidWorks Motion Analysis to calculate system's maximum stable acceleration profile
- Developed proportional control algorithm to adjust motor output in real time, minimizing velocity error

**Automated Painting Device,** Electromechanical Design Sep – Nov 2024

- Designed and built autonomous 2.5 degree of freedom painting and plotting device
- Designed CAD model of linear stage, integrating Arduino, stepper motors, and 3D printed components
- Developed MATLAB script that translated CAM-generate file into precise linear plotting commands
- Recreated any provided image file with selection of 3 paint colors and a sharpie outline onto paper

## SKILLS

**Computer:** MATLAB, C/C++, Git/GitHub, Arduino, SolidWorks/CAD, Python, Revit/BIM, AI integration
**Mechanical:** Manual & CNC mill, manual & CNC lathe, FDM and SLA 3D printing, waterjet, laser cutter, drill press, industrial saws, thermoforming, sheet metal fabrication, precision measurement

## ACTIVITIES

- Boston University Tau Beta Pi Engineering Honor Society, top 20% of senior engineering class
- Boston University Snowboard Team, competing in slopestyle and slalom events