# Sean Suleski

Available for Full-time Employment July 2025

## EDUCATION

#### Northeastern University | Boston, MA

Candidate for Bachelor of Science in Mechanical Engineering, Minor in Psychology

Honors: University Honors Program, Dean's Scholarship Recipient, Dean's List

Activities: Generate Product Development, Forge Product Development, Makerspace Staff, Club Running

## EXPERIENCE

#### Tender Food | Mechanical Engineering Co-op | Somerville, MA

- Designed a food-safe hydraulic press and custom molds that form plant-based meat products matching customer specifications. •
- Programmed and machined parts with Fusion 360 CAM and a CNC Mill to reduce costs by \$2k per part and lead time by 2 weeks.
- Implemented and tested equipment at a food production facility to optimize operational processes before full scale production. •

#### Amazon Robotics | Hardware Engineer Co-op | Westborough, MA

- Designed an electromechanical sheet metal frame assembly in SolidWorks for a next-generation semi-automated workstation. •
- Collected and analyzed conveyor testing data using Python to determine optimal speed settings for use in fulfillment centers.
- Released parts and assemblies to production level in Agile, attaching sheet metal drawings with callouts for PEM hardware inserts. •

#### Archimedic | Engineering Co-op | Waltham, MA

- Prototyped ergonomic applicator pads using foam, heat-sealed plastic, and foamcore for use in a 20+ person human factors study.
- Assembled and pressure tested 100 tissue storage devices to validate preparation for the next phase of development.

## PROJECTS

#### Bourbot | Capstone Project | Northeastern University

- A semi-automated robot that transports 550lb whiskey barrels within rickhouses, precisely rotating them to prepare for aging. •
- Designed the full electrical architecture, including sensor and power supply selection, motor power calculation, PCB design, PID feedback control, wire routing and organization, and object-oriented firmware in C++ to program the ESP32 microcontroller.

#### Tubender | Electrical Hardware Engineer | Generate

- An automated EMT conduit bender that precisely advances, rotates, and bends up to 10ft of conduit for industrial applications.
- Designed and programmed a PID control system using C++ to ensure precise movement of a linear actuator to bend EMT conduit.
- Created PCB schematics in KiCad to connect motors and sensors to the ESP32 microcontroller for firmware integration.

#### Fufu Pot | Project Lead | Generate

- A tabletop kitchen appliance that automates the typically labor-intensive process of making fufu, a traditional West African cuisine.
- Managed a multidisciplinary team of 13 engineers by creating a project timeline, hosting team meetings, facilitating communication, motivating the team, and delegating tasks - culminating in client handoff and giving a product pitch to 250+ audience members.

#### WaveWise | Mechanical Engineering Technical Lead | Generate

- A depth-adjustable kelp farming platform that optimizes growth by taking measurements of the surrounding ocean conditions. .
- Led system-level mechanical design by setting technical milestones, hosting internal design reviews, and teaching members about • design principles, CAD, BOM management, and fabrication methods - resulting in full functionality when tested in a university pool.
- Calculated o-ring groove dimensions to design SLA 3D printed endcaps, ensuring the sensor array assembly was watertight. .

#### Hot Date Kitchen | Mechanical Hardware Engineer | Generate

- A second-iteration date-cutting machine with goals of tripling production speed, improving cleanability, and ensuring food safety.
- Collaborated with a university machine shop to operate a CNC router, CNC mill, and waterjet, creating functional food-safe parts.
- Analyzed parts using ANSYS FEA to predict deflection under various load conditions, informing material thickness selection.
- Designed FDM 3D printed brackets that were mounted to 8020 framing to hold blade tension and allow for quick part removal. •

#### SKILLS

Hardware: FDM/SLA 3D printing, CNC machining, GD&T, hand/power tools, sheet metal, hydraulics, PCB, Arduino/ESP32, soldering Software/Programming: Onshape, SolidWorks, Fusion 360 CAM, ANSYS, C++, Python, MATLAB, Agile, Microsoft & Google Suite

Summer 2024 and Spring 2025

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Jul - Dec 2024

Jul - Dec 2023

Jul - Dec 2022



Spring 2024

**Fall 2023** 

Fall 2024

#### Spring 2023

## May 2025 **GPA:** 3.97