

Benny Lee

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EDUCATION

Northeastern University, College of Engineering

Boston, MA

Bachelor of Science in Mechanical Engineering

May 2029

Relevant Coursework: Thermodynamics, Statics, Materials Science, Statistics, Linear Algebra

GPA: 3.85

Honors: PEAK Summit Fellowship (Fall 2026)

PROFESSIONAL EXPERIENCE

Northeastern University – Financial Stress Lab

Boston, MA

Undergraduate Researcher (PEAK Summit Fellow)

Jan 2026 – Present

- Build Python pipeline generating 59-sector Social Accounting Matrices from multiregional input-output data
- Implement cross-entropy balancing from scratch to a 10^{-7} residual; pilot GDP within 3% of World Bank data
- Cross-check 2 MRIO sources to catch a \$31.2bn data error (21.6% of output); guard results with 340+ tests

NASA L'SPACE – NPWEE Academy

Remote

Principal Investigator / Autonomy, AI, and Space Robotics Team

Jan – May 2026

- Led a 10-person, multi-university team as PI, proposing a self-repairing power grid for future Moon bases
- Designed a two-layer fault protection system targeting <15 ms isolation vs. 50–100 ms in current microgrids
- Planned a 12-month, 4-phase build-and-test program; pitched proposal to NASA mentors at a 4-hour panel

RELEVANT PROJECTS

Gamified Budget Box

Boston, MA

Mechanical Design & Fabrication Lead

Jan – Apr 2026

- Fabricated an 18.5"×8"×12" plywood box for \$22.50 using dovetail joints designed in AutoCAD for rigidity
- Integrated 5 magnetic servo-driven doors, a keypad, and an LCD by laser cutting components and mounts
- Improved durability across 3 prototypes on a 4-person team by reinforcing parts and fixing servo calibration

Embedded Systems Reaction-Time Game

Boston, MA

Embedded Systems Developer

Sep – Dec 2025

- Built a Raspberry Pi reaction game timing responses to <1 ms precision using buttons, LEDs, and buzzers
- Achieved reliable input handling with ~98% accuracy by writing real-time embedded control logic in Python
- Fixed 5 hardware-software integration bugs over 30+ user trials by iteratively testing and refining each build

Optimized Learning – AI Study App

East Northport, NY

Full-Stack Developer

Apr 2026 – Present

- Organize 8 types of course materials per class into a 17-table SQLite database by building a Python pipeline
- Enable an AI tutor to cite course files by ranking class material to pick up to 20,000 characters per question
- Protect user data across 8 database upgrades by adding verified backups, rollback, and 960+ automated tests

e-NABLE Prosthetic Hand (Phoenix v2)

East Northport, NY

Prosthetics Design Lead

May – Aug 2025

- Delivered a functional 3D-printed prosthetic hand for a specific user by tailoring the design in TinkerCAD
- Verified the fit and motion of 15+ moving parts by modeling fingers, joints, and palm in a digital assembly
- Achieved full finger articulation over 4 design revisions by iterating on user's specific fit and motion issues

EXTRACURRICULAR EXPERIENCE

Northeastern STEMout Club

Boston, MA

Volunteer, STEM Outreach Instructor

Sep 2025 – Present

- Simplify 10+ complex STEM topics for local K–8 students by explaining them through everyday examples
- Help 15+ students apply lessons by designing hands-on builds through 90-minute workshops
- Build relationships with Curley K–8 School students across 30+ weeks by running weekly STEM activities

ADDITIONAL INFORMATION

- Technical: Siemens NX, AutoCAD, SolidWorks, MATLAB, Python, Java, C++, SQLite, pandas, pytest
- Interests: Football, Snowboarding, Basketball, Sprinting, Volleyball, Piano, Guitar, Travel, Photography
- Other: 2x National Taekwondo Sparring Champion, 3x NY All-State Track Athlete, Proficient in Korean