

Jeremy Ng

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Portfolio: tinyurl.com/jngportfolio



EDUCATION

Northeastern University | B.S. Mechanical Engineering, GPA: 3.35, Dean's List (Fall 2025)

Expected May 2029

EXPERIENCE

Northeastern Satellite Laboratory (NSL)

Boston, MA

Structures Lead, TeraLink-1

Sept 2025 – Present

- Own the structures subsystem for TeraLink-1, a 6U CubeSat satellite demonstrating 225 GHz space-to-ground communication, selected for an Air Force Research Laboratory satellite program and NASA's CubeSat Launch Initiative.
- Design the fully custom 6U bus frame and internal assembly from scratch, owning structural CAD, custom mounts, and NASA JPL sub-terahertz front-end integration, coordinating interfaces across a 30-member, 7-subsystem team and tracking total spacecraft mass at 7.86 kg against the 12 kg limit.
- Run static and modal FEA on the 6061-T6 primary structure in Ansys Mechanical across 6 frame iterations, modeling deployer rail constraints, RBE3 point masses, and acceleration loads against UNP 30 g quasi-static and 1200 N axial requirements; latest design shows 102.8 MPa peak stress for a 2.7 factor of safety vs. 1.4 required and a 155 Hz first mode.
- Coordinate biweekly manufacturing reviews and technical exchanges with Amphenol CIT, the frame's manufacturing partner, as student liaison; co-producing an official Amphenol preliminary design drawing (Oct 2026) for CDR ahead of fabrication.
- Hand-wound and epoxy-set the flight magnetorquer coils for Pleiades-Atlas, a 1U CubeSat in NASA CSLI's five-university constellation, which passed vibration testing, launched to the ISS on a SpaceX Falcon 9 in April 2026, and is in orbit since July 2026.

Westinghouse Nuclear

Shanghai, China

Compliance Intern

Summer 2026

- Assessed supplier environmental, seismic, and electromagnetic test evidence for 18 imported Diverse Actuation System (DAS) components against IEEE standards and NRC qualification requirements for Xudapu Unit 1, a 1,250 MWe AP1000-based nuclear reactor in Liaoning, China.
- Proposed restructuring the evidence package after CCIC, China's certification and inspection authority, rejected a supplier test report, leading with the nuclear qualification framework backed by EMC test data; documented it in a formal technical summary.
- Reviewed existing certifications and located Chinese contacts for 6 manufacturers to advance procurement and import of these components and control room equipment under China's mandatory certification, discussing submissions with CCIC in person.
- Planned international cargo-flight logistics across ~10 meetings with compliance, engineering, and project execution teams.

Northeastern Lunabotics (SEDS)

Boston, MA

Mechanical Design Engineer

Sept 2025 – May 2026

- Designed, manufactured, and tested a first-generation lunar mining rover with the mechanical team, qualifying for the 2026 NASA Lunabotics Competition; built its excavation and conveyor system carrying up to 70,000 cm³ of simulated regolith.
- Designed and personally fabricated 18 in metal wheel assemblies (sheet metal bending, riveting, welding) for a rocker-bogie, four-wheel swerve drive; wheels carried the 110 kg loaded rover through full competition runs without failure.
- Presented wheel design at the March 2026 Critical Design Review to a panel of industry professionals, receiving approval to manufacture; helped the team secure a competitively awarded \$1,000 Northeastern PEAK Experiences Grant.

LEADERSHIP

Northeastern Satellite Laboratory (NSL)

Boston, MA

Hardware Chief

Aug 2026 – Present

- Lead the spacecraft mechanical hardware domain alongside the electrical and ground station leads, overseeing ~15 members, most of them new; run weekly meetings and SolidWorks training, assigning and tracking tasks.
- Represented TeraLink-1 at SmallSat 2026 with a poster and booth, meeting vendors such as GomSpace, CubeSpace, and Amphenol and presenting to peer UNP Nanosat-12 schools as well as NSL in Northeastern's Space Research Initiative, presenting to ~90 faculty and researchers from six colleges as the only undergraduates.

Northeastern Debate Society

Boston, MA

Executive Board Member

Sept 2025 – Present

- Elected twice to the executive board of a 40-member competitive parliamentary debate club, directing logistics for a 300-attendee tournament each semester that generates ~\$6,000 in revenue.
- Competed at 10 intercollegiate tournaments, reaching quarterfinals at Brown University.

SKILLS

CAD & Analysis: SolidWorks, SolidWorks PDM, Ansys Mechanical, AutoCAD, Static & Vibration FEA, DFM/A

Drawings & Tolerancing: Manufacturing Drawings, Basic GD&T

Fabrication: TIG Welding, Sheet Metal Bending, Waterjet & Laser Cutting, FDM & Resin 3D Printing, Drill Press, Band Saw

Systems Engineering: Critical Design Reviews, Interface & Technical Documentation, Requirements Verification, Mass Budgeting

Programming & Languages: MATLAB, Python, LaTeX, Excel, Powerpoint, Word | English, Mandarin (Both Native)

Interests: Hiking, Flight Sims, Toprope Climbing, Bouldering, Debate, Guitar, Basketball, Camping