

Turner Jennings

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Education

- 2022-Present **PhD in Mechanical Engineering** **Northeastern University, Boston, MA, USA**
Project: *Development of Advanced Energy Absorption Mechanism for Combat Helmets*
Advisors: Dr. Sinan Müftü and Dr. Rouzbeh Amini
- 2017-2022 **B.S./M.S. in Mechanical Engineering** **Northeastern University, Boston, MA, USA**
Concentration in Mechanics and Design, minor in Mathematics

Research Experience

- 2022-Present **Graduate Research Assistant** **Northeastern University, Boston, MA, USA**
Conducting experimental testing of granular materials and developing improved numerical models of ballistic impact on helmeted heads.

Publications

3. **Jennings, T.**, Amini, R., Müftü, S., Modal Analysis of the Head: In-Silico Characterization of the Structural Vibration Vulnerability of the Brain, *Manuscript in preparation*
2. **Jennings, T.**, Amini, R., Müftü, S., In-Silico Analysis of Helmet Performance: The Effects of the Mesh Size and Impact Location in High-Velocity Impacts, *Manuscript in preparation*
1. Clarin, J., Vargas, I., **Jennings, T.**, Salinas, S., Amini, R., Tjiptowidjojo, Y., Yelle, B., Jacobsen, M., Eide, T., Udberg-Helle, C., Olsen, T., Crossen, J., Prot, V., Skallerud, B., Amini, R., An Experiential Learning Opportunity in Norway: Computation for Bioengineering and Mechanical Engineering Students, *Submitted to the ASME Journal of Biomechanical Engineering*

Mentorship and Volunteering

Undergraduates directly mentored:

- 2023 *Aidan T.*: Statistical modelling of helmet ergonomics data in MATLAB and R
- 2023 *Diego A.*: Finite element mesh quality optimization in MATLAB
- 2023 *Lily B.*: Test sample manufacturing process development

Other Mentorship and Volunteering:

- 2023 **Letters to Pre-Scientists**
Paired with a middle school student pen pal sending regular letters to help them learn more about careers in STEM.
- 2023 **Northeastern University Young Scholars Program**
Mentored two high school students during a six-week program mentoring them about the research process and critical skills for higher education.
- 2018-2021 **FIRST LEGO League team coach**
Coached a team of 8-12 middle school students participating in robotics and design competition.

Awards

- 2022-2023 Sami Alsaif Doctoral Fellowship

Conference Presentations

- 2023 Summer Biomechanics, Bioengineering, and Biotransport Conference (SB3C) **Vail, CO**
- 2023 ARL Physics of Soldier Protection SP2 Meeting **Pittsburgh, PA**
- 2023 Winter Conference for Brain Research **Snowbird, UT**

Industry Experience

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| 2020 | Manufacturing Quality Intern
Supervised the “Firewall” team, a cross functional group of 12-15 specialists from engineering, production, supply chain, and quality. Coordinated proactive and reactive quality control efforts to ensure more quality issues closed than opened every month. | Bosch Automotive Technologies, Amata City, Thailand |
| 2019 | R&D Engineering Co-op
Developed an improved protein extraction system from concept to production, coordinating with contract manufacturers and consultants to create a functional and manufacturable design. The optimized system developed performed comparably to laboratory-grade benchtop equipment while costing less than \$1 to manufacture. | DOTS Technology Corp., Natick, MA, USA |

Skills

- **Finite Element Analysis:** LS-DYNA, Altair Hypermesh, Paraview, ANSYS, ABAQUS
- **Programming Languages:** MATLAB, R, Python, C++, HTML, CSS
- **Software:** SolidWorks (CSWP – Mechanical Design), Simulink, Confluence, Jira, JMP Statistical Analysis
- **Tools:** Split-Hopkinson Pressure Bar, 3D printing, laser cutting, soldering and PCB assembly, shop tools, hand tools

Affiliations/Memberships

American Society of Mechanical Engineers (ASME)

Northeastern University Mechanical and Industrial Engineering Graduate Student Council (MIE GSC)