Luke Schwaninger
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EDUCATION

University of Nebraska-Lincoln, Lincoln, NE
Bachelor of Science in Mechanical Engineering, Expected May 2026
GPA: 3.709 | Dean's List
Relevant Coursework: Heat Transfer, Fluid Mechanics, Dynamics of Machinery, Machine Design

PROFESSIONAL EXPERIENCE

Undergraduate Research Assistant, Nano-Engineering Research Core Facility, Lincoln, NE - January 2024 – Present

- Contribute data and analysis leading to 3 peer-reviewed publications
- Present high-impact research posters to 50+ faculty and professionals at symposiums.
- Participate in 2 funded projects on material properties and advanced manufacturing.
- Conduct sample preparation, material characterization, and collect data.
- Provide materials characterization services to industry professionals nationwide.
- Develop Python scripts to analyze datasets and extract meaningful statistics and figures.
- Write and review technical reports and papers for publication.

Design Engineering Intern, Kelley Engineered Equipment, Gretna, NE - May 2025 – August 2025

- Created detailed models and drawings of custom-engineered designs using SolidWorks.
- Assisted in moving 2 company projects from conceptual design through drafting, procurement, and fabrication.
- Gained hands-on shop experience in metal fabrication and assembly of custom mining industry solutions.
- Performed design checks and engineering calculations under supervision to ensure accuracy.
- Collaborated with engineers, project managers, and shop staff to keep projects on schedule.

Statics Learning Assistant, College of Engineering, University of Nebraska-Lincoln - January 2024 – May 2024

- Supported students in MECH 223 coursework through tutoring and problem-solving sessions.
- Collaborated with other learning assistants to track student progress and refine teaching methods.

RESEARCH GRANT RECIPIENT FOR

1. **Nanoscale Investigation of Bone Tissue Near Lacunae in Type-1 Diabetic Postmenopausal Women (2 years)**
   - Analyzed diabetic bone tissue samples using nanoscale characterization tools.
   - Generated data contributing to research papers for publication by first authors.
2. **Microscale Characterization of Additively Manufactured Nickel Aluminum Bronze (1 year)**
   - Investigated the mechanical properties of 3D-printed and cast NAB using nanoindentation techniques.
   - Presented findings at the Summer Research Symposium, earning commendation from peers and faculty.

RESEARCH PUBLICATIONS

Co-author on 3 peer-reviewed publications in Microscopy and Microanalysis and Journal of Laser Applications (2024–2025), focusing on bone tissue properties, corrosion resistance, and advanced manufacturing.

LEADERSHIP & EXTRACURRICULAR ACHIEVEMENTS

Club Golf Participant

- Actively involved in university-level recreational golf, showcasing teamwork and leadership.

Competitive Running

- Dedicated runner with achievements including the Capitol City Challenge and Market to Market Relay.

Community Engagement

- Volunteered at The Salvation Army, demonstrating a commitment to service and leadership.

SKILLS

- **Software**: SolidWorks, FEA, MATLAB, Python, JASP, and IBM Statistics
- **Technical Expertise**: Nanoindentation, X-ray CT Spectroscopy, AFM-NanoIR Spectroscopy, Scanning Electron Microscopy, Laser Scanning Microscopy
- **Soft Skills**: Project Management, Research Presentation, Effective Communication
- **Additional**: Data Analysis, Tutoring, Technical Research Documentation