

Tyrus Kamenitzer

<https://sites.google.com/view/tyrus-kamenitzer?usp=sharing>

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Northeastern University, College of Engineering, Boston, MA

December 2027

Candidate for Bachelor of Science in Mechanical Engineering

GPA: 3.98

Honors and Activities: Generate: Product Development Studio, Club Spikeball, ASME, Dean's List

Relevant Courses: Heat Transfer, Dynamics, Fluid Mechanics, Thermodynamics, Mechanics of Materials

SKILLS

Applications: SolidWorks (CSWA), Python, Arduino, AutoCAD, Jira, MATLAB, C++, Java, Microsoft Office Suite

Manufacturing: 3D Printing, CNC Machining, Injection Molding Basics, Sheet Metal Design, Machine Shop Tools

PROFESSIONAL WORK EXPERIENCE

WHOOP Inc, Boston, MA

January 2026 – June 2026

Mechanical Engineering Co-op

- Conducted failure analysis and developed test methods to root-cause prototype issues, collaborating with suppliers and manufacturing engineers to implement design improvements
- Designed fixtures in collaboration with electrical and signal processing engineers to accurately benchtop test prototypes, incorporating modular features for future high-volume manufacturing applications
- Led crossfunctional verification and validation efforts, translating test results into actionable recommendations
- Applied master modeling (SolidWorks CAD), maintained 2D drawings and technical documentation

Revvity Inc, Providence, RI

January 2025 – September 2025

R&D Mechanical Systems Engineering Co-op

- Created a peristaltic pump around a NEMA motor, taking inspiration from off-the-shelf options and prototyping with a Formlabs SLA 3D printer to hold air at 70 psi for 120 seconds, reducing product cost by 65%
- Ran feasibility tests on the peristaltic pump, analyzing results in Excel to guide design iteration before committing to CNC-machined parts
- Scripted a Python-based life cycle test to run 5,000 cycles, simulating 5 years of expected product use
- Improved reliability of an electrode block by implementing a magnetic mating feature, calculating the optimal magnetic strength for ease-of-use, while reducing costs by \$400 per part through ergonomic redesign
- Introduced a thermally isolated heating plate to enable protein analysis through gel electrophoresis, focusing on minimizing datum feature difference and maximizing thermal efficiency through a custom heat sink
- Completed numerous drawings for CNC machining and manufacturing instructions following GD&T practices

RESEARCH

Advanced Nanomaterials Lab, Boston, MA

May 2024 – December 2024

Undergraduate Research Assistant

- Investigated the interfacial molecular dynamics of water with a graphene sensor to establish a standard procedure to evaluate molecular behavior of various materials for nanotechnology
- Constructed a sample chamber for the experiment to contain a Peltier cooler to prevent phase change, a water heat sink to regulate temperature, and capacitors to sense the samples' dielectric susceptibility and conductivity
- Conducted key preliminary trials through LabVIEW software to graph electrical noise with an A-to-D interface, isolating the sample chamber and external connections with tightly toleranced insulating components

ACADEMIC PROJECTS AND RESEARCH

Growver: Tree Planting Robot, Generate: Product Development Studio

January 2026 – April 2026

- Collaborated with mechanical engineer to interweave the seedling and soil placement subsystems to optimize for product weight distribution, minimize physical footprint, and utilize dead space within the robot
- Used purely mechanical mechanisms to eliminate electrical complexity in the seedling placement subsystem, reducing power consumption while enabling automation

Candl: Countertop Candle Maker, Generate: Product Development Studio

September 2025 – December 2025

- Integrated several electromechanical subsystems with 80/20 scaffolding and exterior panels to assemble a cohesive, user-ready prototype that creates 8 oz candles with customizable scents in just under 1 hour
- Prioritized industrial design to make the user-facing subsystem intuitive and inviting through simple mechanisms and guiding design features

INTERESTS

- Compete with the Club Spikeball team at Northeastern; 2024+2025 runners-up and 2026 D1 national champions
- Co-founded an engaging food Instagram with siblings to share a rich passion for food, family, and friends