Nikhil Krishna

St Paul, MN | LinkedIn | 763-288-9902 | Nikhil-Krishna@outlook.com

EDUCATION

University of St. Thomas — **St. Paul, MN**
Bachelor of Science in Mechanical Engineering — *Expected May 2027*
Minors: Materials Science & Engineering | Physics

WORK EXPERIENCE

Undergraduate Research Assistant — **St. Paul, MN**
University of St. Thomas — *April 2026 – Present*
- Review and synthesize findings from peer-reviewed WAAM studies to identify thermal and material behavior trends and establish simulation baseline parameters.
- Develop finite element modeling FEM and ANSYS workflows to support simulation-driven manufacturing.

Engineering Lab Assistant (Tool Crib) — **St. Paul, MN**
University of St. Thomas — *September 2025 – Present*
- Assist 25+ engineering students weekly through hardware and tool checkout, equipment selection, and support for coursework and senior design projects.
- Maintain inventory and loan records for 250+ shared tools and equipment using WASP software.

Undergraduate Student Researcher — **St. Paul, MN**
University of St. Thomas — *June 2025 – August 2025*
- Analyzed pricing data from 26 consumer goods to calculate a 7.7% year-over-year inflation rate for the Minnesota State Fair "On a Stick Index," with findings featured by KARE 11.
- Developed CPI-modeled statistical weights in Excel using fairgoer spending surveys and historical pricing data.

PROJECTS

Experimental Evaluation of Mangrove Barriers for Wave-Height Reduction — *February 2026 – May 2026*
- Designed and fabricated a modular, gravity-powered wave generator to model tsunami bores, delivering a repeatable fluid testing apparatus for the Geology Department.
- Iterated through multiple wave-generation and measurement designs, simplifying an initial servo-driven crank-slider system into a modular design to improve testing reliability and experimental consistency.
- Evaluated 6 mangrove barrier configurations with 6–20 3D-printed root structures to determine how density and spacing affected wave-height reduction.
- Performed uncertainty analysis using error propagation methods and observed up to a 30% reduction in normalized wave-height ratio at peak barrier density.

Thermal Safety Analysis of Wireless Neuromodulation Implant — *December 2025 – January 2026*
- Developed a transient thermal simulation in ANSYS to model tissue heating during a 1.2 W wireless charging cycle for a medical implant.
- Performed mesh independence studies on a three-layer tissue model (skin, fat, and muscle), validating temperature predictions over a 2,000-second charging cycle.
- Conducted a thermal sensitivity analysis by reducing modeled blood perfusion rates by 25% to evaluate worst-case safety risks for patients with below-average circulation.
- Identified that peak tissue temperatures reached 43.6 °C and exceeded thermal safety limits, recommending a reduction in charging power from 1.2 W to 1.0 W.

LEADERSHIP EXPERIENCE

Student Leadership Intern — **St. Paul, MN**
University of St. Thomas — *September 2025 – April 2026*
- Collaborated with 10+ University Advancement professionals on student outreach and philanthropy initiatives, including Tommie Give Day, engaging 40+ students to strengthen campus engagement and participation.

Orientation & Welcome Days Leader — **St. Paul, MN**
University of St. Thomas — *September 2025 – Present*
- Mentored and supported 35+ incoming students during new student and transfer orientation programs.
- Facilitated small-group discussions and supported Welcome Days events serving 350+ attendees.

SKILLS

Software & Tools: ANSYS, SolidWorks, Minitab, WASP, Microsoft Office Suite (Excel, Word, PowerPoint), Canva
Technical: Data Analysis, Technical Documentation, Literature Review, Experimental Testing, Survey Design