

Peter Nesin

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Mechanical Engineer — CAD • Prototyping • CNC Manufacturing • Public Installations

PROFESSIONAL SUMMARY

Hands-on mechanical engineer combining precise CAD with practical fabrication. Experienced in CNC milling, 3D printing, and laser cutting; fluent in SolidWorks and Autodesk Inventor; comfortable with MATLAB and Arduino. Strong record of leading prototyping efforts and delivering installation-ready work. Based in Chicago, IL.

EDUCATION

Washington University in St. Louis

Dec 2025

B.S., Mechanical Engineering

Minors: Robotics; Studio Art (Sculpture Concentration)

Montgomery Blair High School — Magnet Program (SMCS)

May 2021

SELECTED PROJECTS

University City Public Art Installation — “Let’s Meet Here Again” – Designer and Sculptor

2025

- Presented a proposal to the University City Arts and Letters commission to create a fully-funded site-specific art installation
- Designed, fabricated, and installed three large-scale CNC-cut sculptures; managed proposal, budget, CAM/CNC, painting, logistics, and installation.
- City offered opportunity for permanent display; re-installed for a private collection following cross-country transport.

Pole-Climbing Robot – Mechanical Lead & Fabrication Lead

2024

- Owned full mechanical design in SolidWorks; fabricated with laser cutting and rapid prototyping.
- Integrated control via Raspberry Pi; achieved successful climb test.

Cilia-Bots Research – Researcher, WUSEF / Dr. Bayly Lab

2023

- Developed robotic models of cilia; 3D printing, soft materials, electronics, and soldering.
- Produced poster and presentation; contributed to long-running bio-inspired robotics effort.

PROFESSIONAL EXPERIENCE

Senior MakerTech – Jubel Spartan Lightmetal Makerspace — Washington University in St. Louis, MO Oct 2022 – Present

- Managed makerspace fabrication operations; maintained and upgraded a 3D printer fleet (10+ units).
- Supported 250+ student projects each semester with prototyping, troubleshooting, and fabrication training.
- Designed camera mounts and fixtures to support cloud/remote monitoring; trained 5+ new MakerTechs.

Undergraduate Researcher – WUSEF / Dr. Bayly Lab — Washington University in St. Louis, MO May 2023 – Aug 2023

- Designed robotic analogs of biological cilia to study motion mechanics; SolidWorks + rapid prototyping.
- Presented poster and talk at summer research symposium.

President & Mechanical Design Lead – FRC Team 449 — Silver Spring, MD

Sept 2017 – Feb 2023

- Led mechanical design and fabrication for competition robots; operated CNC; oversaw CAD & machining teams.
- Developed reliable endgame mechanisms (climbing arms, flipping devices); mentored students in shop practice.

KEY SKILLS

Fabrication: CNC mill, laser cutter, MIG welding, manual mill, lathe, hand/power tools **Software:** MATLAB, Arduino

Design & Modeling: SolidWorks (CSWA), Autodesk Inventor, CAM/CNC workflows, technical drawing

Techniques: Rapid prototyping, 3D printing, soldering, electronics, project management