

Mehul Vemareddy

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EDUCATION

University of Pennsylvania, School of Engineering and Applied Sciences, Philadelphia, PA *Aug. 2025- May 2027*

Candidate for Master of Science in Engineering - Systems Engineering

University of Pennsylvania, School of Engineering and Applied Sciences, Philadelphia, PA *Aug. 2023- May 2027*

Candidate for Bachelor of Science in Engineering

Major: Mechanical Engineering & Applied Mechanics (*GPA:* 3.8/4.0)

Relevant Coursework: Machine Design and Manufacturing, Solid Mechanics, Fluid Mechanics, Quality and Productivity (Wharton)

TECHNICAL SKILLS

Design: SolidWorks (with PDM integration), Fusion 360, AutoCAD, Lightburn

Manufacturing: Mastercam, 3-axis CNC & Prototrak Mill, Lathe, MIG Welding, OSHA-10 Certification

Programming & Analysis: Python, Java, Arduino C, Excel VBA

RELEVANT EXPERIENCE

The Boring Company | *Integration Engineering Intern*, Bastrop, TX *May – Aug. 2025*

- Designed and commissioned manufacturing jigs for latest Prufrock tunnel boring machines (TBMs), wrote and enacted test plans to validate pressure cavities, optimized shop floor induction heating system (reducing setup time by 25%, man-hours by 40%, increasing production quality). Provided weekend engineering support to 24/7 production team.
- Optimized cutting equipment repair conex layouts for repeatability across dig sites, document and improved repair practices to reduce mining downtime by at least 50% through targeted bottleneck fixes.
- Wrote scripts automating PDF/DXF revision tracking in MBOMs of latest production TBMs for mass production.

Penn Hyperloop – Not-a-Boring Competition | *Chief Engineer*, Philadelphia, PA *Oct. 2023 - Present*

- Co-led flagship team of engineers at TBC's annual competition to be the youngest team with smallest headcount and budget to successfully dig a tunnel to win Rookie Award & 3rd overall in April '25. Building to win 1st place in April '26.
- Mobilized talent to build cutting face and main drive system that generates 2.7kN torque to dig 0.5m dia. 30m long tunnel in 7 months; raising ~\$50k cash, ~\$75k in-kind donations from VC and industry sponsors.
- Engineered the propulsion system for a 0.5-metre diameter tunnel of 1m depth. Aided in manufacturing and assembly of TBM structure in a 2-week build period with only 4 engineers – won 1st place in category at competition in April '24

Penn Jet Propulsion – Penn Aerospace Club | *Team Member*, Philadelphia, PA *Sep. 2023 – Dec. 2024*

- Designed various nozzle actuation solutions to maximize thrust at various throttle levels (minimizing TSFC) on Jetcat jet engine for 2025 Air Force APOP competition. Implemented Arduino-based sensor systems for 2024 competition.

LEADERSHIP

American Society of Mechanical Engineers: University of Pennsylvania | *Treasurer*, Philadelphia, PA *Sep. 2023 – Dec. 2024*

- Managed \$400 annual budget, allocating funds to organize general body meetings and info sessions for Penn engineers.

LANGUAGES & INTERESTS

Languages: English, Telugu (Proficient), Hindi (Elementary), French (Elementary), Arabic (Elementary)

Interests: Leading tech in energy, data center, transportation, manufacturing spaces; motorsport enthusiast.