

Gary Yan

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EDUCATION

Purdue University

Bachelor of Science Mechanical Engineering

West Lafayette, IN

2029

EXPERIENCE

Purdue Electric Racing

Drivetrain Engineer

Aug 2026 - Present

West Lafayette, IN

- Creating gear manufacturing drawings, DXFs, and models, preparing pre-grinded models for Wire EDM
- Shadowing the manufacturing workflow, learning tolerances, tool choice, and workholding affects fabrication

FRC (FIRST Robotics Competition) Team 6036

Design Captain

May 2025 - May 2026

- Led an 18-member design team to fully develop five robots, multiple ranking in the top 2.5% globally
- Developed CAD, CAM, machining documentation and structured weekly design and manufacturing workshops, reducing training time by 75%
- Implemented Gantt charts, design reviews, and BOM lists to accelerate design-to-manufacture handoff by 20%
- Managed a 1000+ item inventory and coordinated weekly part procurement to optimize purchasing costs by 15%

Peninsula Robotics Academy Summer Camp

Lead Technical Counselor

Jun 2023 - Jul 2025

- Taught STEM and robotics to 120+ aspiring engineers throughout 3 years
- Trained 40+ camp volunteers in Onshape CAD, 3-axis CNC, CAN bus loops, and robot assembly
- Maintained and improved 3 course curriculums across years to preserve institutional knowledge across generations, increasing camp engagement and enjoyment

PROJECTS

Turreted Ball Shooter | FRC Team 6036

Jan 2026 - Mar 2026

- Rapidly prototyped a 500° turreted shooter to enable omnidirectional scoring on the competition robot
- CNC-machined custom 10DP plate gear, optimizing spindle feeds and speeds to increase tool life and eliminate backlash between teeth
- Iterated on 100+ 3D printed links of a custom 3D-style energy chain that routes 10 wires and takes up zero extra horizontal space
- Tested 8 physical flywheel configurations, tuning MOI, grip and wheel durometer to minimize regen time and maximize shot consistency
- Validated turreted shooter through 4 competitions and 50+ hours of practice, achieving 95% shot accuracy, firing at a rate of 10 balls per second, and zero mechanical failures

Spindexer & Hopper | FRC Team 6036

Jan 2026 - Mar 2026

- Prototyped and built a 20" ball spindexer and hopper system that stores, orients, and indexes balls
- Tried 5 materials, 8 shapes, and 12 center cones to optimize flowrate, reduce unnecessary bouncing, and eliminate jamming inside the hopper
- Expanded hopper and spindexer size by 20% from prototypes to increase ball storage by 25%
- Evaluated iterations through 30+ hours of testing, ultimately reaching a consistent feedrate of 8 balls per second and operated with zero ball jams at World Championships

Climber | FRC Team 6036

Jul 2025 - Sep 2025

- Designed a winch-powered, high-load climber mechanism to lift a 150 lb robot under strict spatial constraints
- Fabricated an active alignment mechanism and spring-loaded latch that locks with a 100% success rate
- Machined 80% of structural parts in-house via a 3-axis CNC router, manual shop tools, and rapid FDM 3D printing to immediately iterate on failures
- Verified automated climb sequence through repeated testing, achieving 90% success rate, <10 second climb, and zero structural failures

SKILLS

Software: MATLAB, Python, Onshape, Fusion 360, Fusion CAM, Siemens NX, Bambu Slicer, RichAuto CNC Controller, Mach 3

Manufacturing: 3-Axis CNC, 5-Axis CNC, 3D Printer, CO2 Laser Cutter, Horizontal Bandsaw