

John Yaklin

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Experience

Illinois MicroTech, Lithography Engineer – Urbana, IL September 2025 – present

- Documented efforts to make semiconductor prototyping as cost-effective as 3D printing
- Conducted 3D design and material selection for microscale XYZ alignment mechanism
- Ran experiments to develop optical film lamination process with 90% reduced failure incidence

TSMC, Equipment Engineer Intern – Phoenix, AZ May 2025 – Aug 2025

- Defined requirements, tasks, and deadlines for new hardware deployment to plasma etcher cooling system
- Developed mechanical fixture, installation guide, and data extraction software for coolant sensor
- Collaborated with suppliers and technicians to determine ROI and cost estimates for modified system
- Performed root cause analysis and leak detection, discovering hidden coolant leaks in live equipment

iRobotics, Robotics Engineer (student) – Urbana, IL Sept 2023 – Sept 2025

- Designed and tested mechanical energy storage mechanism with 70% cost reduction and 5% weight reduction
- Developed motor drive assembly with embedded sensor feedback for highly requested automation feature

FIRST Tech Challenge, Robotics Engineer (student) – Bettendorf, IA May 2018 – June 2023

- Designed, fabricated, and integrated electro-mechanical systems for 14 unique robots
- Refined CNC fabrication process to improve bearing fit tolerances and reduce post-processing by 90%
- Enhanced CAD and assembly workflows to reduce prototype turnaround from 3 months to 3 weeks
- Created robot position sensor adopted as global benchmark for over 2 years

Projects

- Created sandbag filling machine prototype and fabrication guide meeting constraints of entrepreneur client
- Developed dielectric coating optic simulator in Python for solar energy device performance characterization
- Researched low-temperature deposition process for dielectric thin films on low-cost polymer substrate

Education

Master of Engineering in Mechanical Engineering Available May 2026

Bachelor of Science in Mechanical Engineering Aug 2023 – Dec 2025

University of Illinois Urbana-Champaign GPA 4.00 / 4.00

Associate of Science in Mechanical Engineering Aug 2021 – May 2023

Black Hawk College – Moline IL GPA 4.00 / 4.00

Dual enrolled during high school, 72 credit hours earned

Skills

CAD: Creo, AutoCAD, Inventor, Onshape, Solidworks, KiCad (electrical design)

Software Tools: Python, Excel, Embedded C/C++, Arduino, MATLAB, Linux shell, Git

Awards

- Helped robotics team earn #1 award in state for 4 consecutive years, top 1% worldwide