

Lucas Kyllmann

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EDUCATION

University of Wisconsin-Madison | Madison, WI

Master of Science in Mechanical Engineering

May 2027

Bachelor of Science in Mechanical Engineering

May 2026

GPA: 3.69/4.00

Areas of Interest: Test Engineering, Advanced Manufacturing, Automation, UAVs/Drones

CERTIFICATIONS & SKILLS

Certifications: **FE Mechanical** - Passed (Sept 2026), LabVIEW Associate Developer, ACE Machine Tool (Mastercam)

Software: SolidWorks, Inventor, AutoCAD, Mastercam, KiCad, Python, MATLAB, LabVIEW

Technical: GD&T, Tolerance Stack-Ups, FEA, Fixture Design, DFM, CNC Machining, Composites, 3D Printing, Sheet Metal

WORK EXPERIENCE

Sub-Zero Group, Inc. | Fitchburg, WI

January 2025 – August 2025

Test Engineering Co-Op

- Designed and built a **\$200K+ automated in-line leak test station** (SolidWorks, LabVIEW), validating 12 steam cavities/hour throughput via production test runs and data analysis
- Wired the station's **\$100,000 controls box**, referencing electrical and pneumatic schematics
- Designed 2 operator seal fixtures (pneumatic bladder & O-ring) to seal complex condenser-tray geometry for repeatable in-line leak testing
- Coordinated with a foam supplier to source specialty gaskets at **90% lower cost** than stock alternatives
- Authored a feasibility report on thermal imaging for production gasket leak detection to prevent steam damage to customer cabinetry, recommending comparative AI analysis of condensation photos instead

Silgan Containers | Oconomowoc, WI

June 2024 – August 2024

Equipment Engineering Intern

- Cut prototype lead time for debossed steel ends from **2+ weeks to 3 days** by engineering a 400-part/hour pneumatic punch press with swappable 3D-printed die inserts and tool steel components detailed with GD&T
- Processed 14 engineering change notices, converting legacy 2D drawings into 3D Inventor models with linked GD&T-compliant production drawings

Sanmina Co. | Pleasant Prairie, WI

June 2023 – August 2023

Assembly Technician

- Revised SOPs for hand-assembled PCBAs using feedback from test builds, reducing build time by 10%

Vail Resorts | Wilmot, WI

December 2022 - Present

Jr. Alpine Race Coach

- Coach 100+ ski racers aged 10–18 each season as a PSIA Alpine Level 1 certified instructor, leading groups of 6–12 and setting daily courses to build fundamentals for 4 WIJARA-sanctioned races a year

EXTRACURRICULARS

BadgerFly | UW-Madison

President

August 2026 – Present

- Led 3 multidisciplinary teams** totaling 12 engineering students in the design, fabrication, and flight testing of an electric quadcopter for Vertical Flight Society's (VFS) Design-Build-Vertical Flight (DBVF) competition
- Secured **\$7,000 in club funding** through written proposals to the university, faculty advisor Lennon Rodgers, and VFS, enabling the team to build its drone, travel, and compete in VFS events in Maryland
- Authored requirement-driven specifications for fully **autonomous drone missions** and designed onboard packaging for a companion computer and AI vision camera
- Designed a compact **200-Amp power distribution board** to route 6S (22.2V) LiPo power to heavy-lift motors

Mechanical Lead

September 2024 – August 2026

- Engineered and fabricated the **carbon fiber frame** for a 7 kg quadcopter capable of flying 40 mph
- Designed a drone-side clutch letting a single servo drop 5 payloads individually or spin the payload carrier free of its 15–20 lb. magnetic mount, coordinating integration and assembly
- Documented the UAV's electrical system in DBVF rule-compliant wiring diagrams used to verify flight safety
- Calibrated PID gains of an 8kg tilt rotor VTOL drone, achieving stable flight leading to the **"Most Precise Payload Drops"** award at VFS's 24-25 DBVF competition