

ALAN AYALA

Aurora, Illinois | (331) 707-8763 | alanayala@myyahoo.com | linkedin.com/in/aayalalopez | English and Spanish

EDUCATION

Waubensee Community College, Sugar Grove, IL

Expected Graduation May, 2027

Associate in Engineering Science - Preparing to transfer into a B.S. Mechanical Engineering program, Fall 2027

3.9 GPA | President's List | Dean's List | CAD Club | Business Club

East Aurora High School, Aurora, IL

August, 2021 - June, 2025

4.3 GPA | Top 5% | High Honors

WORK EXPERIENCE

Cyrus Shank, *Mechanical Engineering Intern & Machinist Apprentice*, Aurora, IL

June, 2025 - Present

- Lead day-to-day operations for the PDSV department, personally performing valve assembly, product testing, quality control, and production tracking in accordance with ASME code and ISO quality requirements.
- Improved PDSV assembly, testing, and shipping procedures and implemented spreadsheet-based tracking, helping the team recover from a 2,500+ unit backorder.
- Perform pop, leak, and spring testing; conduct first-article inspections of supplier components and support product revisions that substantially reduced PDSV failure rates.
- Machine components for pressure-relief valves rated from 50–400 psi and support manufacturing through CAM, CNC equipment, TRUMPF laser marking, custom 3D-printed tools, quotations, purchase orders, and vendor coordination.

Self-Employed, Aurora, IL

E-Commerce Store Owner

November, 2024 - Present

- Built and operate a resale business with 100+ completed sales and 20+ five-star reviews, managing product sourcing, listings, pricing, customer communication, packaging, and order fulfillment.

Commercial Cleaning & Maintenance Specialist

June, 2022 - Present

- Provide recurring cleaning and basic maintenance for professional offices and commercial properties in the Chicagoland area while coordinating supplies and client schedules.

Jewel-Osco, *Service Clerk*, Naperville, IL

April, 2024 - June, 2025

- Supported daily store operations by assisting customers, bagging purchases, retrieving carts, stocking merchandise, and maintaining a clean, organized environment during high-volume shifts.

LEADERSHIP EXPERIENCE

Phi Theta Kappa, *Chapter President*, Sugar Grove, IL

May, 2026 - Present

- Elected to lead chapter planning, officer collaboration, and member outreach while developing initiatives focused on transfer resources, scholarships, campus events, and partnerships with neighboring chapters.

Engineering, Math, & Physics Club, *Club Officer*, Sugar Grove, IL

May, 2026 - Present

- Collaborate on team-based design-and-build challenges, including a structural bridge project, while supporting club planning and member participation.

PROJECTS

CNC Machine Status Notifier

- Designed, programmed, and built an enclosed ESP32-based CNC monitoring system using MPU-6050 motion and SW-420 vibration sensors to detect machine activity and send real-time status alerts to a smartwatch.

Desktop Solder-Fume Extractor

- Built a compact solder-fume extractor using a radial fan, step-up converter, push-button control, and HEPA/activated-carbon filtration.

Huygens Isochronous Pendulum - Calculus III Honors Research Project

- Researched the cycloidal geometry and calculus behind Huygens' isochronous pendulum, then modeled and 3D printed the assembly in Fusion 360, machined two metal bobs, and physically tested the completed demonstration; earned an A.

SKILLS

- *Engineering*: Fusion 360 (CAD/CAM) • Design for Manufacturing (DFM) • Manufacturing Process Improvement • Technical Drawings • 3D Printing • Pressure-Valve Testing • ASME/ISO Quality Practices
- *Manufacturing*: CNC Turning & Milling • Okuma LB3000 EX • Haas VF-4, ST-30Y, and UMC-500 • DMG MORI NLX 2000–2500 • TRUMPF Laser Marking • Precision Measurement • Quality Assurance/Quality Control
- *Programming & Electronics*: C++ • ESP32 • Arduino IDE • I²C Communication • Sensor Integration • Soldering