

Vincent Lin

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EDUCATION

Rochester Institute of Technology, Rochester, NY

Aug 2022 – May 2027

GPA: 3.41 | **Awards:** Uncommon Hacks 2026 Social Track 1st Place, Dean's List, AP Scholar

B.S. in Mechatronics Engineering Technology

May 2026

B.S. in Computer Engineering Technology

May 2027

EXPERIENCE

Hardware Design Engineer

Jun 2026 – Present

LoomLogic Inc

New York, NY

- Led the complete redesign of edge-AI textiles classifier, advancing from R&D to production-ready mechanical design in 4 weeks
- Modeled the hardware workstation assembly in SolidWorks by CADing and integrating 6 electromechanical subsystems
- Validated system design against VOC and functional requirements by conducting beam deflection and lighting/FOV analysis
- Developed complete Excel BOM in 2 weeks under \$3000 by applying DFMA to standardize hardware and simplify assembly

Robotics Automation Field Engineer

Sep 2025 – Dec 2025

Retiina

USPS Atlanta RPDC

- Operated and optimized USPS automated parcel sortation system, supporting 800,000+ daily package throughput
- Led the Operational Excellence team in a DOE-style motor analysis project, reducing system downtime to 8%
- Designed IoT data collection system to gauge motor noise, temperature, and vibration for predictive maintenance

Design and Manufacturing Intern

May 2025 – Aug 2025

Electronic Hardware Corporation

Ronkonkoma, NY

- Modeled and prototyped injection-moldable control knobs in Autodesk Inventor for Defense and Aerospace OEMs
- Developed 100+ new GD&T-compliant drawings in AutoCAD and managed entire drawing database in Macola
- Created official manufacturing travelers for custom and catalog parts based on in-house manufacturing processes

Makerspace Lab Assistant (Part-Time)

Jan 2024 – Present

RIT SHED

Rochester, NY

- Guided over 2000 students in learning to use FDM/SLA Printers, Laser Cutters, Soldering and Machine Shop Tools

Development Engineer Intern

Jun 2024 – Aug 2024

OPmobility, Plastic Omnium KK

Tokyo, Japan

- Assisted validation of SCR emission control system using Vector CANape and Python, completing testing in 8 weeks

PROJECTS

LifeStory – Memory Record Player | *UncommonHacks '26 1st Place*

devpost.com/software/lifestory

- Developed a photo-based record player that turns physical photos into memory playback for Alzheimer's patients
- Built computer vision pipeline using ESP32-S3 CAM, DINOv2 embeddings, ORB matching, and RANSAC homography
- Tuned hybrid DINOv2 + ORB matching algorithm through multiple edge cases, significantly reducing false positives

Automated SVG Sisypheus Table

Mar 2026 – Present

- Built SVG input to Polar G-code converter using NumPy and coordinate geometry to drive a Polar CNC sand table
- Developed C++ firmware on Nano to drive NEMA17's and used PySerial as data bridge from Python terminal
- Designed and verified electrical schematic for complete motor control system and simulation in CircuitDesigner IDE

PACK-E – Autonomous Object Detection & Retrieval Robot

Mar 2026 – Present

- Built real-time object detection system using fine-tuned FOMO model running TensorFlow Lite Micro on ESP32-S3
- Developed bare-metal C firmware for MSP432 motor control, ultrasonic sensing, and inference feedback via UART
- Created navigation logic by computing error between centroid location and frame center using local FOMO output

Automated Blast Gates | *Electrical/Embedded Systems Lead*

Jan 2026 – May 2026

- Designed and manufactured "smart" blast gates in the SHED Wood Shop to optimize vacuum flow, UX, and safety
- Developed closed-loop positioning system using L298N integrated with Nano logic and linear actuator feedback
- Established Nano-ESP32 communication via 8N1 UART and created flow balancing equation to meet system needs
- Devised single-byte broadcast architecture to compute gate position locally without inter-node communication

SKILLS

Software: C/C++, Python, Git, OpenCV, PyTorch, Linux, MATLAB, ABB RAPID Programming, Minitab, Microsoft Office Suite

Robotics/Embedded: ROS2/micro-ROS, ARM/AVR Microcontrollers, NI Multisim, Arduino/PlatformIO, ABB RobotStudio, Allen-Bradley PLC Programming, Studio 5000, TinyML/Edge Impulse, UART/I2C/SPI, DE0-CV FPGA, Docker, Control Theory

Mechanical: Autodesk Inventor, SolidWorks, Fusion 360, AutoCAD, Laser Cutting, 3D Printing, GD&T, Machine Shop Tools, CNC Mill, Lean Six Sigma, Statistical Design of Experiments, MS Project

CERTIFICATIONS

Lean Six Sigma – Yellow Belt | Certified SolidWorks Associate – Mechanical Design | Autodesk Inventor Certified User