

Justin Chen

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EDUCATION

The Cooper Union

Bachelor of Engineering in Mechanical Engineering

New York, NY

Expected May 2028

- Dean's List (2024 – 2026); GPA: 3.92/4.0

EXPERIENCE

Molex

Manufacturing Engineering Intern

Erie, PA

May 2026 – Present

- Spearhead the deployment of **5** unique machines, representing nearly **\$350,000** in capital investments, to drive continuous improvement initiatives on existing manufacturing lines
- Design an end-to-end automated XY vision stage to eliminate subjectivity and error in potting inspection, saving **\$30,000** annually in labor and rework costs
- Execute equipment run-off for the flagship automated socket stitcher machine, drafting equipment and process validation plans, resolving machine faults, and establishing a pre-shipment punch list
- Automated inspections for **60** parts by programming Keyence instruments, reducing inspection time by **~90%**

The Penguinengineering Team

Design Engineering Intern

New York, NY

October 2025 – May 2026

- Standardized a **2-foot** penguin robot assembly consisting of **100+** unique parts in SOLIDWORKS, ensuring strict clearances and compatibility between dynamic components
- Processed CT scans using Meshmixer to prototype robot's flippers, featuring modular ball-and-socket joints
- Redesigned lower-limb and foot assemblies by integrating an additional motor for yaw movement; improving walking kinematics and increasing the robot's mobility to **3** degrees-of-freedom
- Modeled an exterior shell and battery compartment to house electronics, reducing electrical-related faults

Ecolibrium

Systems Engineering Intern

New York, NY

March 2025 – August 2025

- Engineered low-cost monitoring systems for 20A loads to calculate RMS current, enabling seamless data export
- Wired ESP32 systems integrated with SEN66 sensors for real-time environmental data collection
- Programmed in Python and C++ to process sensor inputs, displaying telemetry with **55%** increased accuracy

Aviation Maintenance Technology

Aviation Maintenance Technician

New York, NY

September 2020 – June 2024

- Overhauled reciprocating and jet engines, and manufactured sheet metal and composite aircraft components
- Performed various inspections and preventative maintenance procedures on aircraft to validate airworthiness
- Maintained accurate documentation of repairs and inspections for compliance and safety records

PROJECTS

Mechanical Rectifier

January 2025 – May 2025

- Constructed a mechanical rectifier through Onshape using a flyball governor and flywheel system to convert sinusoidal inputs to constant, unidirectional rotation
- Quantified performance using Tracker Video Analysis and Arduino IDE to measure effectiveness
- Iterated systems for best results: reduced oscillations by **18 dB** (or **~87%** attenuation) with 6-9V power inputs

SKILLS

Core Competencies: Lean Manufacturing, Vision, Automation, Machining, 3D Printing, Arduino

Languages: MATLAB, Python, C/C++, Ladder Logic, HTML, CSS

CAD/CAE: SOLIDWORKS, Creo Parametric, Onshape, AutoCAD, Meshmixer