

ETHAN T. CARR

Mechanical Engineer ~ Developer

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SUMMARY

Mechanical engineer with hands-on experience in design, fabrication, and automation. Background spans product development, system optimization, and team leadership through academic projects and small-scale manufacturing. Combines engineering fundamentals with practical programming skills to solve problems—from NASA competition payloads to automated workflow systems. Currently applying engineering problem-solving to healthcare operations while seeking mechanical engineering roles.

SKILLS

Technologies:

Mechanical design (DFM, DFA), Thermal Systems, Manufacturing Methods, Materials & Processes, System Optimization, Data & Automation

Tools & Software:

CAD/CAM (Autodesk, Solidworks), FDM 3D Printing, FEA Simulation (SolidWorks), CNC machining, Microsoft Excel, PCB layout (KiCAD / EasyEDA),

Programming:

Python, Java, C#, C++, MATLAB, Automation Workflows, API Integration

EDUCATION

9/2018 – 5/2023 **Bachelor of Engineering - Mechanical Engineering** Stony Brook University
Related coursework in fluid dynamics, thermodynamics, thermal fluid systems, mechanical system design, control systems (light), material science & selection.

PROJECTS

Capstone	Payload Team Lead - NASA Student Launch Initiative, Stony Brook Rocket Team ethancarr.dev/rocket Led multidisciplinary engineering team of 5 through complete design, fabrication, and launch cycle of an autonomous high-powered rocket payload with RF command system and custom PCB, meeting stringent NASA deadlines and technical requirements.
System Design	CNC Machine Spindle, Ball-screw, and Stepper Motor Upgrade ethancarr.dev/cnc Reverse-engineered desktop CNC in CAD and designed custom components integrating precision ball screws (90% backlash reduction), 1.5kW spindle, and upgraded motors; achieved 100% increase in max feed rate and depth of cut while iterating designs to reduce component costs 43%.
Product Dev	Travel Pill Tin with Silicone Insert ethancarr.dev/tin Designed and manufactured custom product line achieving 750+ sales and Etsy Star Seller rating; reduced production cycle time 26% and material costs 21% through iterative design improvements including CNC-machined tooling, optimized curing processes, and scaled manufacturing workflow.
Automation	Automated Order Completion with AI Processing ethancarr.dev/bot Engineered automated shipping workflow using Python, Docker, and LLM integration to consolidate Etsy/eBay order processing; reduced fulfillment time 44% and manual interactions 71% through intelligent API orchestration and AI-powered shipping rate selection.

EXPERIENCE

9/2024 – Current	Licensed In-Patient Pharmacy Technician Peconic Bay Medical Center - Northwell Health - Executed precision packaging and labeling operations under USP specifications; maintained quality control protocols and timely delivery of medication - Performed routine maintenance on automated pharmacy dispensing systems; supported inventory management and computerized record-keeping processes
8/2019 – 9/2024	Lead Pharmacy Technician CVS Health - Manage logistics coordination with external vendors and distribution networks; apply systematic process optimization to inventory systems - Oversee regulatory compliance and quality control procedures across operational environment
2/2016 – 8/2019	Shift Supervisor / Store Associate CVS Health Coordinated daily team operations, scheduling, and resource allocation for medium-sized facility