Nathaniel Berman

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Professional Summary

Principal Mechanical Engineer with 8 years of experience leading cross-functional teams from concept through high-volume production. Expertise in complex electromechanical systems, plastics and metals design, and supplier management across Asia. Proven ability to cut costs, accelerate timelines, and deliver robust products to market while leading and mentoring high performing engineering teams.

Education

Northeastern University: *BS, Mechanical Engineering, Cum Laude* September 2015 – May 2020

Skills & Licensures

Skills: Cross-Functional Engineering Leadership, Product Lifecycle Management, Cost Engineering, Contract Manufacturer Management, DFM/DFA, SolidWorks (CSWP) + PDM Admin Tools, Arena PLM, OnShape

Licensed FAA Private Pilot (SEL)

Work Experience

Aerflo *(acquired by iSi Group in Dec. 2025)* Brooklyn, New York

Senior Mechanical Engineer June 2023 – Present

- Leading mechanical engineering department in development of a 100k+ unit/yr consumer food & beverage device, coordinating product definition, design execution, prototyping, and production ramp.
- Designing core subsystems, including complex molded plastic, elastomeric, and metal components, for a compact consumer carbonation device operating at >1000 psi, balancing safety, reliability, manufacturability, and industrial design.
- Achieved 28% COGS reduction on 1M-unit/yr assembly by leading cost-down redesign with Tier-1 Asian suppliers, including onsite factory visits to identify material and process optimizations.
- Travel to Tier-1 contract manufacturers in Asia to execute production builds, troubleshoot assembly issues, and optimize processes, driving an on-schedule launch of the Aer1 device.
- Build and test product prototypes of soft and hard goods using a lathe, mill, laser cutter, 3D printer, rapidly iterating on designs to de-risk components and subsystems prior to tooling.
- Developed and implemented internal documentation and product change tracking processes from scratch, establishing company-wide standards that improved design traceability and reduced release errors.

Markforged Boston, MA

Manager, Mechanical Engineering January 2022 – June 2023

- Led a 20+ multidisciplinary engineering team through R&D, product conceptualization, design execution, and production ramp of a next-generation 3D printer at a Tier-1 contract manufacturer, delivering on an accelerated schedule while maintaining high-quality engineering standards. Presented progress and blockers directly to executive leadership.
- Managed design documentation deliverables with supply chain and external Tier 1 CM partner via Arena PLM and structured ECO process, delivering high quality design documentation and on-time releases.
- Managed and mentored a team of 5 direct reports through career and personal growth goals. Responsible for team promotion planning and performance management.

Team Lead, Mechanical Engineering December 2021 – January 2022

- Led concept evaluation and translation from industrial design into engineering-ready product architectures, with a focus on feasibility, manufacturability, and alignment with schedule goals.
- Coordinated in-house prototype builds with cross-functional teams and developed internal tooling to manage inventory, track costs, and flag design feedback, accelerating prototype cycles and improving product quality.

Mechanical Engineer II December 2019 – December 2021

- Led 5-person cross-functional team as Technical Lead for second-generation Metal X 3D printer, overseeing design, prototyping, NRTL certification, and production ramp, ensuring on-time release and regulatory compliance.
- Designed electromechanical motion assemblies for high performance of metal and composite 3D printers using sheet metal, machined, and injection molded components with rigorous functional and aesthetic requirements.
- Leveraged fleet-wide machine telemetry to root cause and implement pre & post production solutions for obscure system defects level and issues in highly integrated software, mechanical, and electrical products.