Danny Blau ///

SENIOR DESIGN ENGINEER · RAPID PROTOTYPING & PRODUCT DEVELOPMENT

Hands-on design engineer who takes ambiguous briefs to working prototypes in as little as one week, owning CAD, fabrication, testing, and documentation. 13+ years of fixed-date product launches across competitive robotics, professional power tools, and aerospace.

- dannymblau@gmail.com
- 262-993-4628
- Milwaukee, WI
- 3 patents granted, 8 pending

13+	700+	1 wk	3 + 8
YEARS ENGINEERING EXPERIENCE	PRODUCTS BROUGHT TO MARKET	BRIEF TO WORKING PROTOTYPE, OFTEN	PATENTS GRANTED + PENDING

EXPERIENCE

Senior Design Engineer

2 granted, 8 pending

Jan 2021 – 2026

Milwaukee Tool · Milwaukee, WI

FRONT END INNOVATION TEAM

- Delivered working prototypes from brief to hand-off in as little as one week, matching fidelity to the question — from size-and-shape references to fully functional models
- Owned concept-to-prototype as the sole engineer on cross-functional teams: CAD, fabrication, testing, and documentation, with no handoffs to slow it down
- Translated ambiguous research questions into design-intent prototypes and stimulus that drive precise, actionable end-user insights
- Crafted and presented technical shareouts and hand-off documentation for engineering and business leadership
- Managed self-directed skunkworks projects that advanced to the company product roadmap

BATTERY & CHARGERS NPD – M12 HO PROJECT

- Applied GD&T, tolerance stack-ups, and DOE to validate key performance parameters; partnered with Reliability Engineers on UL-targeted test plans

Design Engineer & FTC Product Line Architect

1 patent

Aug 2013 – Jan 2021

AndyMark, Inc. · Kokomo, IN

GAME DESIGN PROJECT – $1.4M ANNUAL PROGRAM

- Delivered a new game every September on a fixed annual cycle: prototyping and design-committee alignment in the fall, DFM to a tight budget over the winter, long-lead tooling in February, full-scale production and kitting from May
- Tracked sales against resupply targets and provided technical support through December, often running two games at once — one in design, one in support
- Served simultaneously as Design & Technical Lead, Inter-Department Point-of-Contact, and Customer Liaison
- Managed full product lifecycle: sales forecasting, mechanical and aesthetic design, material selection, vendor coordination, and testing
- Communicated project tradeoffs using CAD models, graphs, data overlays, video, and test reports
- Tracked deliverables and milestones across all stakeholders; discipline contributed to just 2% end-of-cycle inventory surplus

CORE SKILLS

PROTOTYPING & FABRICATION

3D printing — FDM, SLA, DMLS · Silicone molds & urethane casting · Epoxy casting · Compression-molded carbon fiber · Wet layup carbon & fiberglass · CNC router · Metal lathe · Knee mill

CAD & SIMULATION

SolidWorks · OnShape · FEA — Ansys · Surface modeling · Sheet metal · AutoCAD

DESIGN FOR MANUFACTURING

Injection molding · DFM / DFA · Thermoforming · Blow molding · Extrusion design · Die cutting · GD&T · Tolerance stacks · Motor & gearbox selection · Soft goods & foam · Hardware selection

ELECTRONICS

eCAD / PCB design · Firmware development

ENGINEERING PROCESS

DOE · Verification & test · MVP & user-test prototypes · Hand-off documentation · Cross-functional PM · Agile / Scrum · Technical shareouts

TOOLS & SOFTWARE

Microsoft Office · Google Workspace · Smartsheet · Trello · Claude / ChatGPT · Midjourney

EDUCATION

University of Minnesota

B.S. Aerospace Engineering & Mechanics
College of Science and Engineering
2010 – 2012 · Minneapolis, MN

Milwaukee School of Engineering

- Produced assembly documents and videos, drafted customer-facing content, and provided direct technical support

FTC PARTS ECOSYSTEM — $2.5M ANNUAL PRODUCT LINE

- Oversaw 700+ SKU product line — established brand strategy, design standards, and cohesive product-line objectives
- Brought key products to market: S3 structural system, TileRunner Drive Chassis, NeveRest DC Motor, and wide variety of wheels and hubs
- Gathered and synthesized customer feedback continuously to improve the line

FLL TABLE — PATENTED DESIGN

- Identified unmet market need through discovery research in the FIRST LEGO League community
- Iterated through multiple design concepts informed by direct customer input; delivered a manufacturable solution through full internal sign-off

CUSTOM CLIENT PROJECTS (NDA) & FIELD REPRESENTATION

- Led confidential design engagements; interfaced with clients weekly to define requirements and test assemblies
- Represented AndyMark at FIRST Championship events in Houston and Detroit (40,000+ attendees) twice annually

PROTOTYPING PORTFOLIO — PERSONAL PROJECTS

Battle bot motor controllers — 1 lb & 3 lb class

Designed custom PCBs and motor controllers from scratch to simplify assembly and field maintenance. Full system integration: schematic design, PCB layout, firmware development, custom machined parts, and competition support.

DMX-to-servo conversion module

Built a custom module enabling robotic stage elements to be controlled via standard theatrical DMX lighting infrastructure. Covered PCB design, firmware development, custom fabrication, and ongoing maintenance in a live production environment. Now being developed toward commercialization.

Aerospace Engineer

Nov 2011 — Jul 2013

Aerospace Fabrication & Materials · Farmington, MN

- Designed multi-layer insulation blankets for satellite installation; developed novel CAD techniques for non-stretch, thin-film geometry
- Traveled to satellite assembly facilities to install AFM products alongside client engineers and technicians
- Drove clean-room process improvements and designed fixtures that measurably increased productivity and consistency

B.S. Mechanical Engineering

Transferred to UMN

2008 — 2010 · Milwaukee, WI

MENTORSHIP & LEADERSHIP

Co-Lead & Lead Technical Mentor

FRC Team GRAFFITI · Greendale High School

2024 — Present

Lead Technical Mentor

FRC Team Milwaukee United · Milwaukee Robotics Academy

2021 — 2024

Mentoring FIRST teams since 2009, and in a lead, co-lead, or lead technical mentor role for 13 years, since the 2013 season, across five teams. Presenter at FIRST mentoring conferences across the country, including the 2026 Dr. Woodie Flowers Mentor Conference in Detroit. Guide teams through the six-week FRC build season, from concept to competition-ready robot.

AWARDS

- Woodie Flowers Award Nominee — FRC 8701 — 2026
- Woodie Flowers Award Nominee — FRC 6956 — 2018, 2020
- Woodie Flowers Award Nominee — FRC 1529 — 2016
- College Mentors for Kids recognition — 2014