Anmol Prabhakar

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Education

University of Illinois, Urbana-Champaign | 4.0 GPA — Champaign, IL
B.S. in Systems Engineering and Design, Minor in Electrical Engineering | James Scholar Honors — *Expected May 2028*

Skills

Technical: Fusion 360, Onshape, SolidWorks, Python (Pandas/NumPy), FDM 3D Printing, Rapid Prototyping
Fabrication: CNC Machining, Bandsaw, Rotary Grinder, Surface Planer, Carbon Fiber Layups, Circuit Assembly
Languages: Hindi (Native), Spanish (Professional Working Proficiency)

Experience

Brainstorm EEG Hardware Team — Sep 2025 – Present
Hardware Engineer — *Champaign, IL*

- Engineered a biocompatible strap for EEG neurofeedback therapy, optimizing for patient comfort and signal fidelity.
- Iterated 7+ prototypes using CAD and 3D printing to minimize package size and secure electrode stability during use.
- Developed a custom wiring architecture to reliably transmit data through modular, replaceable cartridge units.
- Researching EEG signal processing circuits to design a custom PCB streaming real-time data into AI models.

Beverly Orthopedics — Jul 2024
Clinical Engineering Intern — *Montebello, CA*

- Fabricated 13 custom-fit orthotics and diabetic insoles, utilizing carbon fiber lamination for lightweight durability.
- Facilitated patient care by providing real-time Spanish-English translation for 20+ patients, ensuring accurate diagnoses.
- Executed 3D scanning protocols for patient anatomies to generate precise geometry for custom diabetic shoe inserts.

Credence Prosthetics — Jun 2024
Prosthetics Intern — *Gurugram, India*

- Trained in the designing, assembly, and tuning of 8 different types of orthotic and prosthetic devices.
- Performed casting procedures on patient limbs to fabricate custom thigh and foot shells using molded polycarbonate.
- Conducted gait analysis and synthesized user feedback to fine-tune orthotic devices, improving patient mobility metrics.
- Assembled complex medical devices including knee-ankle-foot orthotics (KAFO) and cerebral palsy foot braces.

Projects

Knee-Ankle-Foot Orthotic Optimization | *CAD, Biomechanics, Prototyping* — Jul 2025

- Assessed causes of discomfort in straps and shell geometry around the ankle region of a knee-foot-ankle orthotic.
- Engineered CAD solutions to redistribute load away from the shin and enhance blood circulation in lower extremities.
- Fabricated 4 iterative prototypes, adjusting geometric parameters to achieve optimal fit and reduce user fatigue.

Jewelry Small Business Tools (Kanyalndya) | *CAD, Manufacturing, AI Integration* — Jan 2025

- Designed and manufactured a suite of custom inventory tools (sizing gauges, display units) to streamline operations.
- Conceptualized and built a modular magnetic photobox system, standardizing product photography for e-commerce.
- Implemented AI-driven workflows, training the business owner on LLMs to automate barcode generation and invoicing.

Leadership & Activities

Mission San Jose Relay For Life — Aug 2023 – Jun 2025
Executive Board & Participant Management Chair — *Fremont, CA*

- Directed fundraising strategy for an event that raised $148,000+ for the American Cancer Society over two years.
- Architected backend data pipelines using advanced spreadsheet functions to track donor metrics and team performance.
- Spearheaded engagement initiatives resulting in a 13% year-over-year increase in participant fundraising.
- Achieved 1st place nationwide among high school events (5th among collegiate) in the 2025 Fund The Mission Challenge.

First Tech Challenge (Biobots #14318) — Aug 2019 – Feb 2025
Build Captain & Lead Designer — *Fremont, CA*

- Led a cross-functional team of 7 in design, fabrication, and strategy for 6 consecutive robotics competition seasons.
- Designed all major robot subsystems in CAD and executed fabrication via 3D printing and CNC machining.
- Won Motivate, Think, Design, Connect (x2), Inspire Awards; Regional Championship Division Finalist (2024).