

Ahmad Abubaker

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Skills

DFM & Fabrication: Designed for and fabricated using CNC machining, injection molding, casting, welding, sheet metal forming, 3D printing, and laser cutting

CAD & CAM: Created 3D models, assemblies, technical drawings, and CAM in Fusion 360

Simulation: Performed FEA stress and thermal analyses, moldflow simulations, and toolpath simulations to validate designs, predict defects, and ensure manufacturability

Electronics: Designed PCBs, integrated sensors, and prototyped embedded systems

Programming: Developed firmware for microcontrollers and scripts for data visualization and interactive prototypes in Python, C++, Java, and Processing

Design Research & Strategy: Led design processes from stakeholder interviews and systems analysis through synthesis, concept development, and validation

Education

Stanford University

September 2023 - December 2025

MS in Design - Physical Form + Manufacturing

Jordan University of Science and Technology

January 2015 - December 2019

BS in Electrical Engineering - Communications

Experience

Product Realization Lab - Stanford University

Course Assistant - Staff

September 2023 - Present

- **Coached 50+** students from **ideation** through successive **prototyping** and rigorous experimentation with **processes and materials**.
- **Mentored 1,000+** students on a comprehensive range of fabrication workflows including: **CNC machining, welding, milling, turning, casting, woodworking, 3D printing, and laser cutting**.
- **Streamlined designs** by performing **CAD/CAM reviews** and providing expert **Design for Manufacturing (DFM)** feedback.
- **Accelerated research** by providing design and fabrication support for complex experiment hardware builds.

Canaan IoT - Coffee Tech Startup

Co-founder and Head of Product

January 2021 - September 2023

- Drove the end-to-end **product lifecycle**, from initial concept and barista-led **user research** at 10+ coffee shops to a production-ready design.
- **Led 12+ prototype iterations**, systematically refining the hardware for **manufacturability, cost-reduction, and durability** in a high-volume coffee shop environment.
- Established the manufacturing **supply chain**, sourcing all components and qualifying multiple domestic and overseas contract manufacturers.
- Grew the team by **recruiting** and **onboarding** 10+ engineers and developers.

The International Rescue Committee (IRC)

Design Consultant

June 2021 - June 2023

- **Designed, prototyped,** and successfully **scaled** a flagship **Early Childhood Development** intervention, currently reaching **35,000+ caregivers** and **50,000+ children**, with an annual projection to reach **150,000+ new children**.
- **Co-Designed** and **Deployed Playful Learning Areas** in **140+ locations** across four complex contexts: **Jordan, Syria, Iraq, and Lebanon**, including in healthcare clinics' waiting rooms.
- **Facilitated** critical program success by serving as a **key liaison** between diverse stakeholders: caregivers, healthcare workers, government officials, and design teams.

Naqsh Science - STEM Education Startup

Founding Director

July 2017 - January 2021

- **Founded** and **scaled** a pioneering STEM education startup, **recruiting and training 35+ STEM majors** to produce original **Arabic-language** science content and live shows.
- **Secured critical funding and partnerships** by leading **fundraising, grant writing, outreach, and communications** efforts for the organization.