

SKILLS

Machine Design:

- Mechanisms, structures, machine elements, stepper motors, trade studies

Part Development:

- Injection Molding, machining and sheet metal
- Material selection
- FMEA, DFM, GD&T and Tolerance Analysis
- Testing, DOE
- FEA and analysis-based design

CAD modeling:

- Solid and surface modeling in SolidWorks

Programming:

- Processing, Arduino, VBA, Python

Prototyping:

- Manual & CNC machining, Rapid prototyping, welding, forging, composites, vacuum forming

EXPERIENCE

NOVEMBER 2020 – PRESENT

TECHNICAL LEAD - SLS, FORMLABS

- Responsible for architecture definition, systems engineering, team definition and task allocation and prioritization of the SLS hardware engineering teams. Interfaced with CMs and vendors both domestic and abroad, including China travel for engineering builds support and production ramp up.
- Developed and launched **Fuse Blast**, Formlabs' first automated media blasting machine, in a fast program that took 16 months from architecture definition to mass production, and that allocated up to 25 multidisciplinary FTEs.
- Developed and launched the **Fuse1+ SLS 3D printer** which improves printing speeds up to 2X, supports an extended catalog of materials including elastomers and filled resins, and reduced RMA rates from 12% down to 4% by redesigning for reliability when compared to Fuse1. The program was run over 14 months (a first for Formlabs) and allocated up to 70 FTEs from all disciplines.

OCTOBER 2018 – OCTOBER 2020

PRINCIPAL ENGINEER, PENSA

- Technical lead responsible for developing the DIWire PRO, an accurate and affordable, desktop-sized, CNC wire bending machine and its tooling, from concept to market.
- Manage the hardware and manufacturing team and the software development team.
- Lead and mentor junior engineers for client-based projects

OCTOBER 2015 – OCTOBER 2018

SENIOR DESIGN ENGINEER, PENSA

- Designed, prototyped, tested and delivered mechanical and electromechanical systems for products like a CNC wire bending machine, a robotic trash chute, a vending machine, a stroller, a baby monitor and other consumer and industrial products across a range of markets, developing them from concept to production-ready
- Managed client relationships and communications, and closely collaborated with multidisciplinary teams to ensure client and customer input was translated into requirements

AUGUST 2013 – SEPTEMBER 2015

PRODUCT DEVELOPMENT ENGINEER, UNILIFE

- Designed, developed and tested four novel, mechanically-actuated reconstitution syringe platforms, from conceptualization to production-equivalent devices
- Defined engineering specifications based on human factors studies and risk analysis results

MAY 2012 – JULY 2013

RESEARCH ENGINEER, CARNEGIE MELLON UNIVERSITY / ASTROBOTIC

- Manufactured, integrated and tested Earth-demonstration prototypes of the Polaris rover, its lunar excavator payload, and other mobile robotic exploration platforms

EDUCATION

MASTER OF PRODUCT DEVELOPMENT, 2012 - CARNEGIE MELLON UNIVERSITY

BS MECHANICAL ENGINEERING, 2006 - UNIVERSIDAD IBEROAMERICANA, MEXICO CITY

COURSES

- **Launchspace Space Vehicle Mechanisms, elements of successful design.** Santa Clara, CA. May 3rd, 2016
- **AAMI Human Factors for Medical Devices training,** Alexandria VA. March 2015

AWARDS

- **DELPHI 2012 Innovation Competition (Awarded 1st Place)** – Carnegie Mellon
Developed a vehicle alignment system that allowed drivers to accurately park an electric vehicle over a wireless charging pad with a precision of +/- 1" on their first attempt

LEADERSHIP

- **Mentor for Girls Of Steel First Robotics team**, Fall 2012 – Summer 2013 – CMU FRC
- **Engineering intern coordinator**, 2016 –2020– PENSA