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SUMMARY

- 20+ years product design and mechanical engineering
- Cross-functional collaboration and project management with industrial designers, electrical engineers, usability experts, branding & marketing, and overseas manufacturing groups
- Expertise in bringing products from concept definition through manufacturing to sustaining support
- Client list includes Dell, Meta, Delacor, Axon, iFetch, HP, 3M, Polycom, Motorola, and numerous start-ups

EXPERIENCE

Principal Mechanical Engineer, Product Design Engineer Pump Studios | April 2007–2023

Founded Pump Studios, a product design consultancy, in Austin TX in 2007.
Examples of products and expertise provided:

iFetch
2011–2023

Lead Mechanical Engineer and Product Development Manager

- Designed and oversaw production of five products for dogs from concept to completion.
- From early product definition and concept exploration, designed, sourced, and tested all aesthetic and functional prototypes.
- Created and supervised all mechanical engineering in 3D CAD, using Creo Parametric and SolidWorks.
- Through production ramp-up, generated and oversaw all manufacturing drawings and documentation. Visited factories to ensure assemblies met all requirements.
- Worked with iFetch team to address any customer issues and returns.
- Provided technical sales and marketing support at industry trade shows SuperZoo and Global Pet Expo.

Delacor
2021

Product Design Engineering, Project Manager

- Created and built two testing stations for an assembly line of a well-known exercise equipment manufacturer.
- Designed automated systems for testing safety factors: knob resistance calibration, drivetrain performance, and emergency stop validation.
- Collaborated with three mechanical engineers working concurrently in Creo Parametric.
- Sourced off-the-shelf components, custom-length metal extrusions, custom CNC-machined parts, and 3D-printed plastic parts.
- Constructed, tested, and validated station performance at client's warehouse.

Meta
2020–2021

Product Design Engineering

- Designed sleds for Apple Mac mini computers to fit into network racks, allowing remote testing of software and apps.
- Developed sub-systems conforming to the Open Compute Project specifications.
- Used a top-down design approach, defining volumes and constraints via a shared master skeleton model.
- Used Onshape to collaborate in real time with Meta.
- Delivered solution using sheet metal and off-the-shelf purchased components, with allowance for scalability to higher volumes.

Dell
2007–2020

Product Design Engineering

- Worked on 20+ projects with the Dell ME, ID, and R&D groups.
- Offered practical solutions to design challenges on enterprise laptops, servers, and storage systems.
- Implemented ID control surfaces in CAD for several laptop product lines, which were delivered to the engineering and manufacturing teams for detailed product implementation.
- Explored advanced manufacturing approaches to seamlessly integrate carbon fiber with CNC aluminum and injection molded plastics for lightweight, yet durable, laptop display backs.
- Delivered solutions for network server bezels: latches, locking mechanisms, cost reduction, using recyclable materials, etc.
- Designed mechanisms housed in tight spaces providing high insertion and extraction forces for server modules.
- Developed proof-of-concept prototypes for LED light piping and status indication visualizations, wrapped within tightly packed components.
- Explored integrating Open Compute Project (OCP) servers with server racks built to the Electronic Industries Alliance (EIA) standards.
- Explored and envisioned the future of enterprise networked server and storage systems and how they should evolve.

PureWine
2020

Product Design Engineering

- Partnered with industrial design consultants to create a reusable wine bottle toppler for filtering out sulfites and histamines.
- Creatively designed, prototyped, and tested solutions to land at a result nearly identical to the originally desired size.
- Preemptively designed for future cartridge design changes.
- Recommended manufacturing with ultrasonic welding, two-shot molding, and hidden snap features to hide functional elements without compromising functionality and elegance.

**AccuQuilt
2013–2017**

Product Design Engineering

- Envisioned a motorized version of AccuQuilt’s manual quilting fabric cutters.
- Iterated layouts with industrial designers to house the drive train within an ergonomic and portable system.
- Designed an automatic safety feature to pause and reverse the cutting process if touched near the cutting slot.
- Recommended a combination of injection molded plastics, sheet metal, die castings, and extrusions incorporated with purchased components.
- Supported the project from early concept development through overseas manufacturing site visits.

**Bluelounge
2012–2013**

Product Design Engineering

- Collaborated with Bluelounge owner to develop elegant accessories for Apple products.
- Designed multiple phone stands and chargers that hid all assembly features.
- Delivered an articulating laptop stand that improved ergonomics and thermal cooling.
- Creatively designed, prototyped, and tested all solutions for cost-effective, manufacturable products at competitive prices.
- Worked with Apple’s confidential disclosure of upcoming products, to deliver Bluelounge accessories in parallel with Apple product launches.

**Director of Mechanical Engineering
Design Edge | March 1999–April 2007**

Provided mechanical engineering and product design consulting for clients such as Dell, 3M, AMD, HP, Motorola, Polycom, and multiple start-ups.

EDUCATION

Bachelors of Science in Mechanical Engineering
The University of Texas at Austin
Austin, TX, USA | 1992