
Jim Colton

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Enthusiastic product design engineer and CAD expert.
20+ years experience successfully bringing products to market.

Summary of Qualifications

- Expert in the use of 3D CAD tools to develop concepts, capture design intent, and manage each step on the way to production. Daily Pro/Engineer (CREO) user since 1993.
- Specialist in electronics packaging, medical device design, and consumer products.
- Design for injection molding, casting, machining, sheet metal, pressure forming, and prototype.
- Extensive experience with DFMA, including cost-down and optimization of existing designs.
- Effective and efficient as a team leader, team member, and solo contributor.

Professional Experience

Colton Design Engineering - Coupeville, WA
Senior Mechanical Design Engineer

2014 - Current

Recent projects include a wearable device with cellular connectivity, a multi-layer masked-glass optical assembly, complex injection molded parts for high-volume multi-cavity production, and presentation materials for global process documentation.

Visron Design, Inc. - Rochester, NY
Senior Mechanical Design Engineer

1997 - 2014

Design team member and leader on diverse projects in multiple industries. Product development from concept to prototype to production to cost-improvement using a broad variety of materials and processes. Design of individual parts and complex assemblies using Pro/E and SolidWorks, including the use of surfacing and skeleton models for organic shapes. Clients and projects have included:

Johnson and Johnson/Ortho Clinical Diagnostics: Redesigned both moving and static parts for a complex blood analyzer. Moved design from low-volume processes to die-cast parts, resulting in greater accuracy and quality, while reducing mass and cost. ROI for the design and tooling was less than 12 months. Earlier projects included design of a mechanism to aspirate and deposit microliter volumes of fluid using a piezoelectric device.

Electronic Braille, LLC: Created a device that helps blind children learn to take notes in Braille. Designed the enclosure, spill-proof keypad, and printed circuit board features, and was responsible for the top-level assembly.

Luminescent Systems, Inc.: Designed two electronics enclosures for controller boards and the network interface for solid-state aircraft lighting control for the Lockheed Martin F-35. Devised a hybrid manufacturing process involving machining and dip brazing while meeting rigorous goals for stress and thermal testing, weight, and cost. Collaborated with working groups across multiple locations and organizations.

Sun Microsystems: Designed a desktop drive array and a 1U rack-mount node for network servers. Challenges included tight space restrictions, air flow/heat management, EMI/RFI, and safety during hot-swap of components.

Reichert Instruments: Revamped an early industrial design model of a hand-held tonometer and its charging base into manufacturable parts. The final product included a multi-shot overmold, and assembly without fasteners.

Guidant Corp: Design for gas-assist injection molding of a pacemaker programmer/recorder/monitor enclosure.

NexPress: Design of overmolded motor-brush housings and toner bottle brackets using glass-filled PC/ABS.

Hill-Rom: Design of enclosure and internal parts for bedside patient interface assembly.

Xerox: Design work on photocopier structure and components - highly successful use of reference datums.

Visron Design: Design of a two-piece self-fixturing enclosure for a card-scan point of sale device.

Char Broil: Design of the deck and top surface surrounding an unusual electric barbecue grill.

Intel: Design work on an early (2001) effort to invent tablet computing.

Pathlight: Developed latching hardware and faceplates for 1U rack mount trays.

Perkin-Elmer: Redesign for injection and structural foam molding of laboratory analyzer enclosure parts.

RAF Tabtronics: Analyzed processes and redesigned manufacturing fixtures for power transformer components.

NASDAQ Stock Exchange: Design of a linear scissor-mechanism to mount flat panel displays in the video arrays that you see in every overhead picture of the trading floor.

Applied Mechanical Technologies - Rochester, NY
Mechanical Design Engineer

1993-1997

Mechanical design of injection molded, sheet metal, machined, and cast parts using Pro/Engineer and AutoCAD. Served a variety of industries including aerospace, medical equipment, electronics packaging, and toys. Clients and projects included:

Welch Allyn: Designed a hand-held otoscope, wall-mounted tip-dispenser and speculum. Designs involved organic shapes, snap fits, living hinges, and the use of optical-grade polycarbonate.

Fisher Price: Captured the design intent of company-created artwork and physical models for an infant tub and potty seat/step stool, turning fairly complex shapes into parts that could be tooled and manufactured.

Lego: Created models for a large school bus/fire truck to hold Duplo blocks, and concept models for follow-on products.

Paravant Computer: Designed a metal enclosure for a rugged laptop computer. Water-seals and drop-specs drove most design decisions. Final field testing of this unit included blasting it with a fire hose on tarmac.

Compaq Computer Corporation - Houston, TX
Mechanical Engineer

1989-1993

Electronics packaging - emphasis on durable, cost-effective parts. Extensive experience with EMI/RFI and high-volume production. Worked in the desktop group during the time that Compaq had an unsurpassed reputation for making high-quality, reliable equipment.

Education

Rice University - Houston, TX
 BS in Mechanical Engineering; minor in Sociology

1989

US Patent # 5,218,760 - Method of Grounding a Computer System Board.

References available upon request. US Citizen