

Analytical and creative, experienced in the development of scientific equipment, medical devices, consumer products and museum exhibitry. Excellent written and verbal communication skills, able to continuously learn and apply new knowledge.

Freelance / Consulting

11/08 – present

Contract design and precision machining. Software testing (analyze, validate & troubleshoot VOIP systems), configured low-power (5-10 watt) computers to be effective running Linux and other Open-Source software. Webmaster for the SF chapter of *Engineers Without Borders*.

Onda, Product Engineer

5/05 – 10/07

Designed ultrasound test and measurement equipment. Developed new products and improved existing products, from conceptualization to CAD solid models (SolidWorks), to detail drawings. Addressed issues such as form, function, fit and finish, cost, and manufacturability. Also responsible for tooling design, creation and maintenance of documentation, master parts lists and BOM's. Interfaced with outside fabrication and vendors to ensure timely, quality, cost-effective materials.

Freelance Engineer / Designer

1/03 – 5/05

Developed informal educational experiences, including the fabrication of exhibitry for the *Our Place in The Universe* exhibit at the Chabot Space & Science Center. Studied Linux/Unix Open Source software. Wrote an astronomical reference book.

Exploratorium, Exhibit Developer

6/99 – 1/03

Designed and built interactive biology exhibits for the *Traits of Life* collection. Involvement: research, experimentation, conceptualization, design & engineering, fabrication, documentation, troubleshooting, and maintenance. Challenges: display and protect living organisms within electro-optical-mechanical systems, create low maintenance life support systems. Lead developer for the following Exhibits: animal-plant interdependence shown via real-time measurement and display of CO2 levels, photosynthetic production of oxygen bubbling from aquatic plants, termite colony in thin cross section with custom lighted magnifiers, mutant flies in viewer pods. Coordinated the work of volunteers, contractors and outside shops.

BiLobal Design, Owner

1/97 – 6/99

Start up of a business developing, manufacturing and marketing an eco-friendly home furnishing product. Coordinated design, manufacture, marketing, and distribution.

MOTO Development Group, Mechanical Design Engineer

12/94 – 12/96

Consulting firm environment. Developed concepts from sketch to 3D CAD models (Pro-E) to first article run and manufacture. Conducted client liaison and project management. Designed injection-molded, sheet metal, and machined parts and assemblies. Projects: vehicle mount system for ruggedized computer, automated pool & spa control box, desktop phone switching device, automated hospital inventory control system with interlocking modular plastic parts, thermal studies and heat-sink design for Apple powerbooks.

Wyatt Technology, Mechanical Design Engineer

2/93 – 1/94

Resolved optical, thermal and mechanical design challenges in the manufacture of laser light-scattering scientific equipment used for macromolecular and particle characterization. Improved performance, usability and lowered cost. Responsible for assembly & testing of prototypes and coordination of production with vendors. Designed optical read head and flow cell assemblies (AutoCAD). Patent # 5,404,217 issued.

Vistek/MDI, Manufacturing Engineer

4/90 – 1/93

Responsible for the mechanical design, electronic packaging and manufacture of surgical video cameras and Xenon light sources. Conducted product and tooling design, process improvement and cost reduction. Implemented GMP procedures, brought document control system up to FDA standards.

Cal Poly San Luis Obispo, B.S. Manufacturing Engineering Technology

3/86 – 3/90

Studied Manufacturing Engineering and Processes, emphasis on a Learn by Doing approach. Deans List.

Don Bosco Technical Institute, A.S. Manufacturing

9/79 – 9/84

Hands-on vocational training program. Experience: drafting, lathe, milling machine, precision grinders, CNC equipment, plastic injection molding.

Tools

Linux, Mac, MS Windows, SolidWorks, Pro-E, AutoCAD, GD&T, Unix shell, Illustrator, Excel, Vim, vertical mill, lathe, multimeter, soldering iron, microscope, pipette, and a variety of power tools, hand tools and precision measuring instruments.

Ongoing Studies

Open Source Software, power efficient computing, language, typography, bookbinding, astronomy, amateur radio, sustainable living solutions, furniture design, modular architecture, music