

## EXPERTISE

Electronic Design and Development  
Unique Exhibit Design and Construction  
Embedded Software Development (C language)  
Project Management  
Organization and Communication  
Problem Solving  
Creative Solutions  
SMT Electronic Assembly (prototypes and small production)

## CAREER EXPERIENCE

May 2004 – Present  
Interactive Electronics Design, LLC  
Arden, NC

### Owner

Established a start up company intent on providing custom electronic design and development services to create unique and interactive exhibits and features for museums, science centers, and themed attractions. Provided concept and development of embedded electronics for [MagiQuest](#) attraction across the country, interactive displays for new exhibits at the [Colburn Earth Science Museum](#) in Asheville, NC and animatronic controls to bring to life the dinosaurs of metal sculptor, [John Payne](#) for a traveling museum exhibit.

March 2003 – May 2004

Kearfott Guidance  
Black Mountain, NC  
Electrical Engineer

Sustained legacy military electronic subsystems and controls. Facing production failures and severe component obsolescence issues with contractual commitments foiling any significant redesign effort, identified root cause of failures and then implemented immediate, short, and long term corrective action. Also wrote several new project bid/proposals soliciting new business with various military contractors.

May 1997 – March 2003

Welch Allyn  
Arden, NC  
R & D Project Leader

Budget and supervisory responsibility for an engineering department of 5+ engineers and technicians. Led teams to create new and improved professional diagnostic electronic medical devices. Project budgets up to \$3.5M. Team sizes up to 15 members. Concurrently supported efforts to sustain current products. Design control responsibility for all electronic products manufactured in the facility.

October 1994 – May 1997

New York Air Brake  
Watertown, NY

### Project Leader

Led a team of 14 engineers and technicians through a 2 year, multi-million dollar development project hinging on a joint venture partnership with GE-Harris. Managed the project schedule and budget and advised management on project status. Played a key role in establishing the initial product requirements and defining the high level, distributed system architecture utilizing intelligent, networked "nodes." In addition to managing the overall project, I also led the electronics sub-team. Awarded 2 patents.

January 1993 – October 1994

AMSCO

Montgomery,AL

Project Leader/Operations Engineer

Led an engineering team of 8 to 10 people to develop a new medical lighting system from a rough prototype to a released product including: design specifications, design validation, manufacturing documentation, and agency approvals. Designed all the electronics to control intensity and beam direction from a remotely mounted, low voltage control.

June 1988 – January 1993

Lutron Electronics

Coopersburg,PA

Design &Development Engineer

Developed hardware and software for a microprocessor based product in an entirely new product category for the company. Provided extensive input to the mechanical design. Awarded 3 patents. On an earlier project, I developed Lutron's first quiet fan speed control product from concept to production.

## EDUCATION

August 2002

Western Carolina University

Cullowhee,NC

Degree:Master of Project Management (MPM)

GPA:3.67/4.0

July 1998

Project Management Institute

Newtown Square,PA

PMP Certi .cation – Project Management Professional ((PMP)

June 1988

University of Illinois

Champaign/Urbana,IL

Degree:Bachelor 's Electrical Engineering (BSEE)

GPA:4.21/5.0

## AFFILIATIONS

January 1998 – Present

PMI Member

Project Management Professional (PMP)

January 1988 – Present

IEEE Senior Member

Local Consultants Network (LCN)Member

**SKILLS**

Electronic design	Compact design
Microprocessor based controls	Low cost design
Atmel AVR, Microchip PIC, Motorola HC05, Z80, Z180	PC board layout
DC motor speed controls	Surface mount technology (SMT)
Wireless controls: IR, RF	SMT PC board assembly
DMX control	Prototype assembly
Embedded Ethernet	Short run production
Mp3 audio	Troubleshooting
Audio amplifiers	Cost analysis
Special effects	Risk analysis
Serial communication (RS232 and RS 485)	FMEA
High impedance circuits	Failure analysis
Electronic packaging and enclosure	Asian suppliers
Embedded Software	Exhibit design
Firmware	Museums
C language	Science Centers
Battery operated circuits	Themed Attractions
SD/MMC flash card interfacing	Unique and creative features
MOSFET outputs	Medical devices
Switchmode power supplies	Surgical lighting
Current limiting	Non-invasive blood pressure measurement
Circuit protection	EMC approvals
Proprietary communication protocols	UL, ETL, CSA regulatory testing
Custom LCD displays	Project management
Feedback control systems	Budgeting
	Scheduling
	Negotiation

**REFERENCES**

Available upon request

