Will Boren

The Colony, TX
-Email me on Indeed: http://www.indeed.com/r/Will-Boren/0b95cee7a2d44e79

of a functional requirement specification and having a plan-of-action in moving the product through development then into manufacturing with accelerated-life reliability testing, FCC spectral certifications, and NFPA/NEC/UL safety standard approvals.

Work Experience

Electrical Design / Process Controls Engineer

Cates Controls - Plano, TX
January 2018 to December 2021

#Work with sales and customer to understand the processes and requirements of a controls engineering project.
#Write a functional requirement specification in accordance with safety standards and regulations, develop sequence of operation, and mockup HMI screens for customer approval before electrical CAD design is started.
#Design control process strategy, program PLC code, design HMI screens, configure and setup VFD, program servo drives, setup SQL databases, and configure filed devices.
#Design medium voltage 480 volt electrical control panels and precision controlled servo motor apparatuses, VFD electric drive systems,
PLC/HMI programs for automating manufacturing lines and production processes, including: precision production machining presses and robotic machines, web fabric mills with multiple synchronized VFD motor driven rolls, tension dancers as PID feedback for determining motor torques; food-processing lines for preparing, cooking, and packaging food products; and spray paint booths having
PID control of pressure and temperature,
#Optimized energy usage of manufacturing spray paint booth curing cycle using recirculation damper to reuse heat during curing cycle and maintaining booth pressure using a VFD motor speed follower PID error control for exhaust blower while intake blower is at unknown speed. Bypassed OEM burner controller routine and replaced with cascaded PID in PLC. This change in design solved a problem with burner box exceeding high-temp limits while maximizing the rate of change in booth temperature rise during the cure cycle.

SCADA Product Design Engineer

Legend Municipal Services - Brachfield, TX
January 2015 to December 2018

#Designed explosion-proof wireless devices for use in petroleum refineries and drilling rigs capable of operating in NFPA 70, Article
500 classified hazardous locations.
#Created SCADA application software programs using PLC/HMI and Microsoft Studio C# and C++ to collect data in real-time from
60,000 remote wireless data collection points.

#Designed firmware routines for embedded microcontrollers using C programming language that included input analog measurements, machine output controls, timers, counters, data storage, and communication protocols.

Industrial Product Design Engineer

Stellar Automation, Inc. - Big Spring, TX
January 2013 to December 2015

Instrumentation and control systems designer tasked with new product business development and application specific designs. This includes PLC/HMI controls electronic designs to the PCB level, integrating sensors, prototyping, writing firmware/software, and creating production documentation. Instruments typically include industrial products operating in hazardous locations and req uiring water-proofing enclosures having capabilities of wireless SCADA and universal I/O required for industrial grade products used in oil and gas process controls, manufacturing facilities automation controls, and electrical power generation/distribution systems.

Combustion Process Control Engineer

EnviroTherm Intl - Fort Worth, TX
January 2012 to December 2013

#Designed PLC/HMI based process control systems for hazardous locations waste gas destruction thermal oxidizers used in natural gas processing facilities. Medium voltage 480V control system equipment and hardware adhered to Hazardous Locations Class1-Div1
Explosion-proof per NFPA construction codes and UL1203 explosion proof equipment safety standards.

RF/Industrial Controls Product Design Engineer

Spectrum Etiquette Design Services - Dallas, TX
January 2005 to December 2012

Design and manufacture ultra-low power, mesh networking industrial radio products capable of operating 10 years on a C-Cell Li-ion primary cell battery. Custom design of RF hardware, PCB layout, RF communications protocol firmware, and battery power management circuits.
Invented and wrote specifications and claims. Put into manufacturing. Explosion-Proof Radio; USPTO Title: “Wireless communication device with internal antenna system for use in hazardous location.”
Invented and wrote specifications and claims. Put into manufacturing. Received patent in 2017. SCADA Distributed Control System;
USPTO Title: “Distributed control system for a vacuum sewer system.”

RFIC Applications Design Engineer

XEMICS/Semtech - Dallas, TX
January 2003 to December 2005

Direct solutions and consult customers in optimal transmitter and receiver designs. These designs include firmware design of RF protocols for frequency hopping (FHSS), DS/CDMA protocols and RF circuit hardware designs of PCB layout, LNA design, PA design, oscillators, PLL, RF & IF filters, digital up/down converters, matching networks, Tx/Rx switches and impedance-controlled
PCB layouts.
Provide expertise in antenna design for small handheld radios and large base stations. Designs include PCB layout of loop, helical and planar antenna as well as mechanical form factor designs of Inverted-F Planar antenna and antenna diversity using T/R switches.

Consult customers on radio transmitter design to eliminate unwanted spurious emissions, harmonics, and intermodulations to pass FCC and ETSI regulations. Provide expertise in wireless protocol, firmware for microcontrollers and DSP to meet FCC and ETSI standards.

RFIC/Power Electronics Applications Design Engineer

Micro Linear Corp. - Dallas, TX
January 2000 to December 2003

Provide new product definitions to sales and marketing targeting IEEE 802.11 WLAN and ISM band RFIC designs.
Design firmware and hardware for Spread Spectrum Protocol ISM band radios for 915 MHz, 2.5 GHz, and 5 GHz frequencies.
I excelled as a lead RFIC application engineer by using expert knowledge of RF circuit design and RF Communications Protocols.

Mixed-Signal IC Test Applications Group Leader

Teradyne Inc. - Dallas, TX
January 1997 to December 2000

Lead test engineering group in designing production line RFIC and mixed signal IC test systems using UNIX C DSP software routines.
Create state-of-the-art electromagnetic mechanical interface hardware and circuits for benchmark RFIC testing. DIB hardware required designing RF amplifiers and LNA, RF & IF filters and matching networks, oscillators, RF switches, impedance-controlled PCB with 25 layers having high-density, hig- speed digital bus layout, and RF circuit tuning. Automated test included noise figure, intermodulation products, phase noise, SNR, and other RF parameters.

RF/Power Electronics Engineering Manager

Siliconix /TEMIC Corp. - Dallas, TX
January 1994 to December 1997

Manage a group of contract manufacturing engineers in designing high-volume products for offshore production. Management responsibility included product design, manufacturability analysis, test equipment development, and production ramp -up.
Design PWM DC motor controllers, AC/DC power converters, Li-Ion battery DC/DC converters and management systems.
Lead RF design optimization and production efforts for high-volume manufacturing of UHF/VHF tuner and AM/FM radio modules.

Power Conversion Electronics Design Engineer

C-Power Company - Dallas, TX
January 1991 to December 1994

Apply design expertise of amplifiers and high-power switch converters toward the design of AC/DC off-line power converters and audio amplifier products. Use electro-mechanical experience in the design of inductors, transformers, and heat transfer/sink devices.

Electric Drive/Power Electronics Design Engineer

Reda Company - Bartlesville, OK
January 1988 to December 1991

Excel as a design engineer in the development of PWM motor controls and variable speed drives for use in high-voltage industrial motors. Designs included high-power bipolar and MOSFET switches, power capacitors, protective relays, and real-time firmware.

Education

Bachelor of Science in Electrical Engineering

University of Texas at Arlington - Arlington, TX

1988

Skills

- # Cellular and ISM Band RF Circuit Design # High-Current AC/DC Power Converters # Embedded uC Firmware Design # Antenna Design and RF Propagation Study # DC/DC Battery Power Management # RF Protocol
- Mesh, FHSS, DS/CDMA # High Current Analog PCB Layout Design # PCB Magnetic and Antenna Design # IEEE 802.11b and Bluetooth Protocol # High Speed and RF Transmission Layout # ATE and PCB Assembly Processes # C, C++, Java, Assembler, UNIX # Medium Voltage 480 VAC 3-Phase Design # Servo-controlled Precision Robotics # Industrial Ladder Logic PLC/HMI Code # UL508A Industrial Control Panel Design # Heat Transfer and Thermodynamics # Fluidic Sense and Control Methods