Chad Garner

4933 Murray Blvd. U36 (801) 712-2200
Murray UT, 84123 cgasdf1@gmail.com

Objective

A position based in the development of electronic systems that may include, but is not limited to, industrial control systems, PLC's, VFD's, HMI's, circuit design, electronic hardware design, programming, embedded systems, prototyping, and or soldering

Professional Experience

Controls Programmer R&D Energy Management Corporation 10/2017 – 12/2022

- Development of PLC, VFD, and HMI applications
- Development of custom IOT systems, and single board computer applications
- Internal testing, and repair of failed VFD systems
- Advanced sensors used in monitoring motor vibration, temperature, and other variations

Electrical Engineer R&D Spectra Symbol 09/2012 – 07/2017

- Lead electronic hardware designer, and programmer
- New product development, and improvement of existing products
- Development, and improvement of electromechanical, test, and data acquisition systems
- Advanced circuit design techniques based in analog, and digital computing
- Advanced multi-layer printed circuit board development for various applications
- Programming based in software, firmware, PC applications, and embedded systems
- Prototype assembly using advanced soldering techniques, and mechanical assembly skills
- Prototype testing using standard electronic test equipment, and proprietary test systems
- Development of advanced Zigbee multi-sensor End Point, and Zigbee Cellular Gateway for sensor data transmission based in IOT technology

Electronic Technician R&D Blackrock Microsystems 02/2011 – 06/2012

- Prototype assembly, and testing for brain implant systems
- Advanced soldering, wire bonding, Parylene coating, and silicone encapsulation
- FDA certified implantable enclosure assembly

Electrical Engineer R&D GTG BMX 01/2009 – 12/2010

- Embedded system development, analog design, digital design, and PCB development
- Entrepreneurship, new product development, building, and testing of prototypes for practice systems meant for BMX bike racing applications

Electrical Engineer R&D Southwest Products 03/2004 – 08/2008

- Lead electronic circuit designer for various analog, and digital applications
- New product development, and improvement of existing products
- Development, and improvement of proprietary production, and test systems
- Advanced circuit design techniques based in analog, and digital computing
- Programming techniques used in embedded systems
- Prototype assembly using advanced soldering techniques, and mechanical assembly skills
- Prototype testing using standard electronic test equipment, and proprietary test systems
- Development of advanced self-calibrating light sensor using analog, and digital computing techniques to provide digital trigger event for ballistic chronograph system

Education

Bachelor of Science, Electronics, and Communications Engineering Technology
ITT Technical Institute 2008

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Electronic Skills

- ●AC, and DC Electronics
- ●Analog, and Digital Computing
- ●Magnetism, and Electromagnetism
- ●Electronic Devices
- ●Semiconductor Principals
- ●Series, and Parallel Circuits
- ●Combination, and Complex Circuits
- ●Circuit Simplification
- ●Active, and Passive Filters
- ●Resistance, and Resistive Circuits
- ●Capacitance, and Inductance
- ●Capacitive, and Inductive Reactance
- ●Transformers, and Mutual Inductance
- ●BJT, JFET, MOSFET, and Diodes
- ●Analog, and Digital IC's
- ●Regulated Power Supplies
- ●Electromechanical Systems
- ●Discrete Logic, and Flip-Flops
- ●Microcontrollers, and Microprocessors
- ●Software, and Firmware Programming
- ●Program Testing Techniques
- ●Embedded Systems
- ●Microsoft Office, and PC Applications
- ●C, C++, C#, VB, JAVA, and PYTHON
- ●Assembly, and Machine Code
- ●PIC, and ARM Cortex
- ●Windows, and Linux PC based OS
- ●Phototransistors, and Photoresistors
- ●OP-Amp's, LCD's, and 555 Timers
- ●Volatile, and Non-Volatile Memory
- ●Electronic Communication Systems
- ●Analog, and Digital Modulation
- ●Zigbee, Wi-Fi, and Bluetooth
- ●Cellular Modems, Antennas, and IOT
- ●I2C, SPI, JTAG, UART, and Ethernet
- ●RS-232, RS-422, RS-485, and USB
- ●Electronic Test Equipment
- ●Oscilloscope, and Digital Multimeter
- ●Logic, and Spectrum Analyzers
- ●Function Generator
- ●Data Logger, and Variable DC supply
- ●Environmental Test Chamber
- ●Visual Studio, and MPLAB-X
- ●EAGAL, Ki CAD, and Multisim
- ●Electronic Sensor Design
- ●Advanced Troubleshooting
- ●Advanced Soldering Techniques
- ●Product Development, and Prototypes
- ●Production System Development
- ●Product Validation Experiments
- ●Single Board Computers
- ●PLC's, VFD's, and HMI's
- ●MODBUS, MELSEC, and Ethernet IP
- ●Mitsubishi, Cermate, A-B, and Invt

Electronic Experience

Electronic Hardware Design

- Experience in the design of analog circuitry including all types of discrete components, integrated circuits, voltage regulation, current limiting, and analog sensors
- Experience in the design of digital circuitry including all types of logic gates, digital sensors, digital memory, and embedded systems
- Experience with complex techniques such as modulation, AC filters, AGC, ADC, and DAC
- Multi-layer printed circuit board design for a variety of applications

Programming & Embedded Systems

- Experience in writing firmware for multiple types of microcontrollers including Microchip, and Arm Cortex based systems
- Experience writing software for multiple purposes such as calculation programs, and computer-controlled systems using various operating systems
- Experience writing in multiple low-level, and high-level programming languages including Machine Code, Assembly, Ladder Logic, C, C++, C#, and VB
- In depth understanding of Object Oriented, and Procedural Oriented programming
- Software, and firmware development, that may include multithread programming techniques, for new products, automated product testing, and data acquisition
- Experience with advanced PLC, VFD, and HMI applications
- Experience with industrial control panels that may consist of advanced sensors, and IOT

Product Development

- Experience working with IOT using ZigBee, Cellular, and electronic circuitry to perform operations or return readings for a variety of applications
- Experience with multiple types of test equipment including oscilloscopes, digital multimeter, Bluetooth sniffer, and Agilent data loggers
- Experience with multiple types of programs used in product development including EAGAL, DIP Trace, Ki CAD, Electronics Workbench, and AutoCAD
- Experience building prototypes using multiple techniques that range from using basic proto board, and soldering iron, through advanced PCB development, and reflow