George 'Clarke' Monroe IV

Embedded Systems Engineer

Objective

To develop high-quality embedded systems and devices that sense, monitor, control, and communicate with other systems. Preferred responsibilites include the full development cycle from the design and development of embedded hardware, embedded software, testing, documentation, and support.

Experience

Goodbit Designs LLC — Aug 2017 – present

Owner

- Goodbit Designs was founded with the simple goal of providing the market with a highly-skilled and dependable source of embedded engineering services. We work closely with clients to help them with everything from rapid prototypes, to low-volume custom solutions, and full product development. Learn more at www.goodbitdesigns.com.

The Coca-Cola Company — Feb 2016 – Aug 2017

Principal Electronics Engineer

- Developed and integrated electronics for a mobile vending robot called "Cobot"
  - Communication between multiple control boards (Atmel ATmega2560 processors) and a computer (Intel NUC)
  - Software developed in C++
- Technical lead on a restricted project
  - Facilitated multi-team collaboration and system integration
  - Developed test objectives and procedures, supervised data collection, performed data analysis, and presented findings to stakeholders
  - Project required multiple disciplines including thermodynamics, fluid dynamics as-well-as chemical, mechanical, electrical, and controls engineering
  - Developed reliable and repeatable tests, documentation, and calibration procedures through process control

Georgia Tech Research Institute — Dec 2011 – Feb 2016

Research Engineer I

- Designed, constructed, and programmed a custom standalone embedded device to control custom RF equipment
  - Incorporated an embedded touch screen to permit the user to select operating modes, send commands, view received commands, and display diagnostic information
  - Simultaneous communication with multiple systems over RS-485 and RS-232 serial connections
  - Utilized the TI TM4C123GH6PM processor – an ARM Cortex-M4F based microcontroller
  - Developed in C++

Experience (continued)

- Assembly programming for the Radar Warning Receiver on select F-16 aircraft
- Repurposed an in-house design for a multi channel programmable pulse generator
  - Developed a simple PC application in C# to configure and control the pulse generator (supervised a co-op through the programming)
  - UDP Ethernet protocol was utilized for communications between the PC and pulse generator
- Significant technical contributions to the initial release of a new military standard called HOST.
  - Developed for the use of open-source hardware for high-performance mission computers

Factory Automation Systems — Summer 2010, Jan – July 2011
Controls Engineer

- Programmed PLC's (Programmable Logic Controllers), VFD's (Variable Frequency Drives), HMI screens, and a 3D imaging system for automated manufacturing processes
- Generated and verified industrial electrical schematics
- Wired, tested, and tagged electrical panels

Dot Metrics Technologies
(now AquiSense Technologies) — May 2008 – Dec 2009
Embedded Systems Engineer Intern

- Developed the electrical system to power and control the first implementation of a new water disinfection process using Ultraviolet (UV) LED's (now a commercial product)
  - Utilized the Atmel ATtiny13 microcontroller
  - Software developed in C
- Constructed fixtures for different biological and UV LED performance based tests

Education

Georgia Institute of Technology — Jan 2010 – Dec 2012

M.S. Electrical and Computer Engineering (GPA 3.4 / 4.0)
Minor in Computer Science. Focus on Control Theory.

University of North Carolina at Charlotte — Aug 2005 – Dec 2009

B.S. Electrical and Computer Engineering (GPA 3.8 / 4.0)

References

References are available on request.