Manuel M. Ramos

Phone: (561) 635-5981
GitHub: https://github.com/ramo1266 Resume Site: https://ramo1266.github.io/Resume
Email: ramo1266@bellsouth.net LinkedIn: www.linkedin.com/in/manuel-ramos-29b5611b9

Summary:

I am a seasoned Control Systems Engineer with over 16 years of experience designing and implementing cost-effective automated systems. Highly experienced in developing cutting-edge equipment for various industries that have improved the quality of their products and the production speed. Additionally, utilizing innovative software techniques has provided me with a proven track record of reducing code development and debugging time. Capable of leading or coordinating with a team of engineers to complete projects in a fast-paced, challenging, deadline-driven environment.

Education:

Florida Atlantic University August 2002 – August 2007
Bachelor of Science in Electrical Engineering

Work Experience:

RexelUSA July 2022 – Current
Automation/Product Specialist

- Present technical information, tailoring messaging to both technical and executive audiences.
- Developed Systems for customers' applications based on their requirements
- Partnered with clients to troubleshoot and optimize existing systems, ensuring scalability and alignment with future business goals.
- Conducted cold calls and prospecting activities, generating leads and expanding the sales pipeline
- Acted as primary point of contact for after-sales support, strengthening customer relationships and contributing to repeat business.
- Provided after-sales technical support, ensuring smooth system integration and resolving issues quickly
- Delivered ongoing post-sales training and consultation, empowering clients to utilize solutions fully.
- Partnered with service teams to address challenges, boosting customer satisfaction.

Hilton International Industry July 2021 – April 2022
Lead Control System Engineer

- Developed a multiple-axis servo control battery winding machine
- Aid the assembly team in wiring and troubleshooting
- Generated manual and technical documents

Syneo LLC September 2007 – June 2021
Lead Control System Engineer

- Develop software standards to reduce development and debug time
- Provide software solutions to complex control problems.
- Coordinate with the production team on building and troubleshooting
- Worked with customer service on troubleshooting machines remotely
- Synchronize with the sales team to transcribe customer requests into software specifications
- Aided a team of mechanical engineers in developing and debugging machines
- Led a group of software engineers in developing complex systems
- Supported the application department in testing customer-supplied materials

Technical Experience:

- Developed PLC software using:
  - Omron SYSMAC
  - CX-Programmer
  - Keyence
  - RSLogix 500
  - RSLogix 5000
  - Studio 5000
  - Kollmorgen
  - Connected Component Workbench.
- Developed HMI using:
  - Maple Systems
  - Weintek
  - Kollmorgen
  - Omron
  - Beijer
  - FactoryTalk View Studio
  - FactoryTalk View Designer
  - FactoryTalk Optix
- Experience with Rockwell Management software:
  - FactoryTalk Historian
  - FactoryTalk AssetCentre
- Developed PC software using:
  - VB.net
  - C#
- Developed schematics to NFPA 79 standard using:
  - Autodesk AutoCAD
- Programmed safety controllers from:
  - Banner Engineering
- Programmed motion controllers from:
  - Galil
  - Trio
  - Omron SYSMAC
  - CompactLogix
- Programmed collaborative robots from:
  - Universal Robots
- Developed vision applications using systems from:
  - Keyence
  - Banner Engineer
- Programmed and commissioned servo drives from
  - Parker
  - Kollmorgen
  - Omron
  - Rockwell
- Design PC Board using
  - KiCAD
- Experience using Fieldbus technologies such as:
  - EtherCAT
  - Ethernet/IP
  - TCP/IP
  - MODBUS

Summary of Experiences as a Control System Engineer

At the beginning of my career as a Control System Engineer, I found writing and debugging PLC code time-consuming and complicated. After three months of late nights and frustration, I began developing a common framework that followed the Structured Programming paradigms. The primary purpose was to streamline the development and debugging of the PLC and HMI. The testbed for this new framework was Syneo's flagship tube cutter, the 202L. After a few weeks of development, the 202L became an outstanding success due to its ability to have different options in the same code base. Furthermore, since the framework's purpose is to be modular, readable, portable, and scalable, their other standard and custom offerings enjoy the same success as the 202L. Additionally, this framework enabled new control engineers to learn all of Syneo's offerings quickly.

For 14 years, I have worked with engineers from various manufacturers in the medical, optical, and telecommunications industries. These projects have ranged from one-off custom machines to production cell systems. Developing these various systems provided me with experience in integrating multiple technologies from different manufacturers.

In the medical device manufacturing industry, hundreds of machines have been designed using Syneo's product line, which includes the Tube Cutter, Feeder, Tipper, High Voltage Tester, Driller, and custom offerings that integrate other vendors' products. These systems ranged from custom modifications to standard machines to complete turn-key production cells, designed to meet customer production demands.

For example, one such custom offering would consist of a Feeder, Cutter, Inkjet Printer, and Robotic Arm. The Feeder would deliver a catheter to the Cutter, which would then index the part to an inkjet printer. Then the Cutter would control the printer through an enable and encoder signal to start and stop the printing. When printing is concluded, the Cutter will cut the part to a programmable length and place the finished product in a bin using the Robotic Arm.

A production cell system was controlled by multiple PLCs using a custom SCADA system programmed in Visual Studio to coordinate the process. An example of such a system consists of a tube feeder that picks and feeds catheters to two drillers, equipped with a vision system to inspect the hole's quality and diameter. Next, the drilled catheter was transferred to a pad printer for processing. Once completed, the pad printer markings were inspected by another vision system to verify the position and quality of the print. The finished part was then sorted into a pass-fail bin.

For the optical industry, a system was developed for Jenoptik to automate the calibration of a lens fixture used in their SYIONS miniature microscope product. This system comprises Zygo's Laser Interferometer feeding data to custom-built software that communicates with a PLC to control high-resolution stepper motors from PI-USA. This automated system enabled Jenoptik to increase its production rate and quality without requiring the operator to have an in-depth knowledge of the process.

The Press-Fit division serves the PC Board industry. The family of machines is used to press connectors onto PC Board. My role in this division was to assist the lead programmer in improving the software, troubleshooting issues, updating schematics, and performing other tasks. I also assisted the assembly department in building and debugging the electrical and mechanical components of various machines. Finally, I would calibrate and test these machines functionally before shipping.

The daily duties would consist of assisting the assembly department with manufacturing and debugging any issues that arise during the building process. Additionally, working with the applications department to verify that customer-supplied products can be processed on the machines, as well as implementing continuous improvements to the software. I also worked with the customer service department to diagnose machines in the field and coordinate customers' requested upgrades.