Patrick J. Gigaroa

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**Professional Experience**

**GEA Solutions** – Salix, Iowa

January 2016 – Present

**Owner / Sr. Automation Engineer**

Core Competencies:

* + More than 20 years of experience, I’m proficient in providing high-end industrial automation systems for various industries. I maintain, manage, and enhance Plant Automation Systems.
  + Automation resource for your Project Engineers and Management.
  + I fix Automation system issues that your team can’t solve.

**Gelita USA / Gelita North America** – Sergeant Bluff, Iowa

January 2014 – January 2015

**Automation Engineer**

Achievements:

* + Plant Automation Systems upgrade.
    - MES and SCADA systems software installed on Server 2008 R2 servers employing and leveraging the advantages of VMWare.
      * Provides a hardware redundancy with a 1 second system failover.
      * System snapshots provided for testing application system changes and Windows updates.
    - SCADA System
      * Upgraded from RSView32 to Factory Talk View SE 7.0 Distributed with redundant HMI and Data Servers.
      * Removal of RSView32 thick clients and installation of Dell Wyse thin terminals.
      * ACP Thin Manager.
      * Area based graphical alarming.
    - Removal of proprietary data logging system and installation of Factory Talk Historian Site Edition.
    - Installation of Factory Talk Vantage Point EMI.
    - Development and implementation of VLAN’s for the Automation / Production network.

Responsibilities:

* + Collaboration with various departments to help resolve issues and enhance productions system.
  + Maintain, manage, and enhancement of the Plant Automation Systems.
  + Automation resource for Project Engineers and Management.

**ConAgra Foods** – Council Bluffs, Iowa

January 2013 – September 2013

**Automation Specialist / Engineer**

Achievements:

* + Installation of Factory Talk AssetCentre.
    - Automatic PLC backups.
    - Management of historical changes.
    - Detailed tracking of PLC changes.
    - Leverage Factory Talk security to manage system users.

Responsibilities:

* + Management of electrical technicians.
  + Development of Plant Automation Standards.

**Advance Pierre** –Orange City, Iowa

January 2012 – January 2013

**Maintenance Technician / Controls Technician**

Achievements:

* + Production floor safety system upgrade
    - Removal of old E-stops and wiring.
    - Installation and programming of L61S series safety processor creating redundant safety circuits.
    - Installation of Ethernet Point I/O using safety input and output modules that interface to the L61S processor.
    - Installation and programming of PV+ touch screen used as the operator interface for control of grinders, augers, and conveyors. User interface also has diagnostics and a visual interface providing the operator with knowledge as to why a particular piece is not functioning. Such as E-Stops, contact failures, OL’s, and disconnects.
    - Electrical schematics developed in AutoCAD Electrical 2012.
  + Ammonia system changes
    - Fixed compressor sequencing issues; problems occurred when the system would have to skip compressors because of various failures and by changing the sequence of the compressors. Made changes so that the last compressor that is brought online by the sequencer always becomes the trim compressor.
    - Addressed safety issues by unloading all compressors excluding the trim compressor if the pressure of the system becomes out of range. This could occur if a slide valve on a compressor failed and other various causes.
  + Implemented the use of AutoCAD Electrical 2012 for any new projects.

**Wells Dairy Inc.** – Le Mars, Iowa

October 2000 – June 2011

**Process Controls – Automation and Controls Technician / Engineer**

Achievements:

* + Plant Control System Upgrade
    - Removal of Silver Series Panelviews and upgraded system to Factory Talk View SE Distributed System.
    - Control System logging utilizing SQL Server 2008 Database.
    - Alarming using Factory Talk Alarms and Events; and notifications using WIN911 for email and SMS notifications. Alarms are logged to a SQL Database.
    - Remote panels employing Siemen’s Thin Client’s and Server 2008 Terminal Server requiring minimal maintenance and quicker system changes.
    - Upgrade of five PLC5’s to ControlLogix L60 and L70 series.
    - Graphical and Voice Annunciation enhancements.
    - Installed three Main Operator Stations that use Thick Clients with an 8 Screen operator interface and the optional ability to control 2 stations from 1.
  + Plant Floor Data Collection System – implementation of company wide data collection system.
    - Factory Talk View ME screens installed at every production line allowing for interaction between operators and production workers. Also allows productions workers to log into a particular line or out using their badge.
    - Production runs are automatically downloaded and stored eliminating manual paperwork.
    - Downtime is automatically logged by the system providing a history of downtime events, causes, sub causes, and tied to production run histories.
    - System provides not only historical logging but current and instant information including but not limited to TE (true efficiency of the line), LE (labor efficiency), and statistical data
    - All information available to plant management via web interface, allowing instantaneous information available by line, business group, or by plant.
  + Two Ammonia Control System Upgrades
    - Upgrade of obsolete IFix Scada system to Factory Talk View SE Distributed.
    - Implementation of new control system to current system adding sequential compressor control and alarming.
  + Kuka Basic and Advanced Programming
  + Modicon Proworx and Unity Programming
  + Siemen’s Programming
  + CCST Level 1

Responsibilities:

* Troubleshoot, replace, calibrate, and tests malfunctioning pneumatics, hydraulics, electrical, mechanical, and instrumentation components on high speed machinery systems, electrical systems, mechanical/refrigeration systems, and process systems across all Wells Dairy’s facilities.
* Perform, design, and implement system improvements, and operational improvements, on high speed machinery systems, industrial control systems, and instrumentation systems.
* Diagnose, design, and program communication networks for control in the manufacturing facility for TCP/IP, ASCII, DH485, DH+, Controlnet, DeviceNet, Profibus, Foundation Fieldbus, Hart, Modubus, Modbus+, Profibus, Serial, and Sercos.
* Analyze and repair components and networks using conventional and digital multi-meters, voltmeters, ohmmeters, oscilloscopes, meggers, and hand tools. Be able to log data with metering equipment to create trends and histograms that can provide data for troubleshooting.
* Ability to create and diagnose PLC code with five IEC languages including Ladder, Function Block, ST Structured Text, SFC Sequential Flow Chart, and IL Instruction List.
* Design and develop control systems for capital projects for new equipment and processes at the Dairy, including complete programs for PLC’s, HMI’s, SCADA, electrical CAD layouts, P&ID prints, panel designs, functional design specs, commissioning, and equipment requisitions. Including but not limited to Allen Bradley PLC 5, SLC 500’s, and Contrologix series; Siemens S5 100 and 115U; Modicon Quantum including ProworxNxt 984 ladder and Unity Pro; Hitachi; Westinghouse; KUKA Robotic Controllers; Emerson Controllers; Allen Bradley GML Controllers; RSView SE & ME; IFix; Vijeo; flow meters; pressure sensors; and various other systems.
* Coordinate with IS, supply, operations, project, and plant engineering personnel to improve procedures, equipment, systems, and solve problems.

**VT Industries** – Holstein, Iowa

March 1998 – October 2000

**Electrical/Electronic Machine Repair Specialist**

Achievements:

* TPC training completion.

Responsibilities:

* Maintenance and design of systems within the plant. Includes designing, installation, preventive maintenance, calibration, troubleshooting, modifications, integrated circuit repair, and programming.
* Installation, troubleshooting, modifications, and programming to automated equipment containing PLC’s (programmable logic controllers) such as Siemen’s S5 (100, 115, and 135U), Allen Bradley (SLC 500’s), Beckoff, Fanuc, Homag, and ABB; machines containing CNC controls (Computer Numerical Controller’s) such as Siemens, ABB, Beckoff, and Fanuc; and to single and multi-axis servo drive systems such as SEW Eurodrive and ABB.
* Installation, troubleshooting, modifications to frequency converters (such as Perske); DC drives; frequency drives (such as Allen Bradley, SEW, Stober, Keb Kebco, and MagneTek); fiber optics; label application systems (such as Zebra and Intermec); bar code readers (such as Data Logic, AB Adapt Scan, Accusort, and Intermec); motor control centers; and distribution panels.
* Use of various test equipment including multi-meters, logic probes, power factor meters, discharge tester, meghometer, cable testers, tachometers, illuminometers, anemometers, amp meters, pyrometers, and etc.

**IBP Inc.** – Dakota City, Nebraska

November 1994 – March 1998

**Electronic Technician**

Responsibilities:

* Maintenance, calibration, installation, and troubleshooting the electrical and electronic control devices at the IBP processing plant.
* Calibration, testing, and troubleshooting State Certified Scales, metal detectors, and barcode readers.
* Install, modify, diagnose electronic malfunctions, and repair integrated circuitry in photosensitive devices; bar code readers (such as Accusort and Laser Data); weight measuring equipment such as bench scales, carcass scales, in motion scales, train scales, floor scales, and batch scale systems (not limited to but including Fairbanks, Metler Toledo, and Weightronics); printers, labeling application systems, and marking systems (not limited to but including Citoh, Fargo, Markem, Marsh, Label Aire, and Willet); various industry unique equipment such as high speed processing equipment.
* Troubleshooting and repair of complex automation systems; such as Material Handling Systems including palletizers, depalletizers, ASRS (automated storage and retrieval systems or known as “Crane Storage”, IER’s (Insertion and Extraction Robots), and AGV’s (Automated Guided Vehicles or automatic forklifts); refrigeration systems including Frick compressor controllers; data acquisition systems; and water filtration systems (such as Neptune). All which includes being able to work with PLC’s (programmable logic controllers) including but not limited to Modicon 984, 884, 484 and Micro Series.
* Use of various test equipment such as dual trace oscilloscopes, multi-meters, signal generators, various simulators, logic probes, diode testers, cable testers, transistor testers and various other unique test equipment.

**Iowa Air National Guard** – Fort Dodge, Iowa

March 1993 – August 2001

**Electronic Systems Journeyman and Early Warning Radar Specialist**

Achievements:

* Foreign Service Award
* 5 Level Journeyman’s
* Air Force Achievement Medal

Responsibilities:

* Install, inspect, service, repair, adjust, optimize, overhaul, modify, and test various types of ground, long range search and height finding (3-d) radar and ancillary equipment which will determine the location and height of aircraft, including the AN/TPS-43E AND THE AN/TPS-75, 3D (height finding) radar systems.
* Also inspect, service, repair, adjust, optimize, overhaul, modify, and test various associated pieces of electronic equipment that comprise a complete radar system such as radar signal simulators, plan position indicators, video mappers, radar recognition sets, interrogator sets, coder decoder groups, radar computer systems, and etc.
* Knowledge in the use of electronic equipment such as dual trace oscilloscopes, signal generators, computer aided diagnostic test sets, transistor test sets, frequency counters, spectrum analyzers, TDR’s (time domain reflectometers), OTDR’s (optical time domain reflectometers), and etc.

**Education**

Iowa Central Community College, Fort Dodge, Iowa

**Associates**

Community College of the Air Force

**Electronic Systems Technology**

Northwest Iowa Community College

**Visual Basic**

**Office Skills**

Proficient in the use of Microsoft Office, Excel, Power Point, Word, Project; and Lotus Notes.

**References**

References are available upon request.