BRYAN BURT

522 Riverside Road

Buford, Georgia 30518

Tel: (404) 441-4414

E-mail: bryanburt4@gmail.com

**OBJECTIVE:** To obtain a position that will utilize my experience and further develop my skills in a progressive and challenging environment. Over 20 years’ experience in automation, motion control androbotics and the programming, design andintegration of systems.

# **EDUCATION**

Bachelor of Science in Electronics Engineering Technology - June 1993

DeVry Institute of Technology - Phoenix, Arizona

### GPA 3.1 - Lab GPA 3.5

COURSE The curriculum focuses on practical applications of technical skills including more

EMPHASIS than 660 hours of laboratory experience in the following areas:

*Microprocessor Systems Control Systems*

*Circuit Analysis Transform Analysis*

*Analog Communications Digital communications*

MAJOR Designed and Built:

PROJECTS *Z80 Based Computer Systems Sun Tracking Systems*

## *Universal Asynchronous RX/TX Kiting Systems*

COMPUTER Languages Software Hardware EXPERIENCE *C / C++ Language Microsoft OS Mitsubishi Electric*

*Turbo Pascal Rockwell Fanuc CNC/Robotics*

*Z80 Assembly Linux Intel 8088 / 8086*

*8088 Assembly Turbo C++ 6800/68000 Emulator*

*68000 Assembly Pascal Allen Bradley*

# **WORK EXPERIENCE**

**Robotics Engineer August 2016 to Present**

**Makino Mason, Ohio 45050**

Primary responsibilities as a contractor to install robotic cells used for machine tending to Makino’s CNC horizontal machining centers. Systems are designed at Makino headquarters in Mason, OH and shipped to the customer directly. Responsibilities include almost all aspects of automation to get the cell erected, safely and functioning to required speed and tolerance to meet required cycle times. This includes erecting of the safety fence, installation of gate switches, all wiring, EOAT installation, light curtains, etc.

**Software and Robotics Engineer January2016 to June 2016**

**PaR Systems Shoreview, Minnesota 55126**

Primary responsibilities as a contractor to write TPP code on large scale system for NASA that utilized 1 Fanuc R-2000 robot to spray foam insulation on both the liquid hydrogen and liquid oxygen fuel tanks to be used on the Orion Spacecraft. Primary focus on robot safety and re-homing in the event of maintenance or fault recovery. Being that the robot was mounted on a 15’ foot arm with rotation as well as 300’ of linear travel added a degree of complexity in programming by adding 2 external axes. Modified existing KAREL programs to allow for PC interface for operator control of robot and EOAT in a centralized location. Primary duties consisted of programming with Fanuc’s simulation software RoboGuide which allows testing of programming off-line prior to implementation.

**Controls, Automation and Robotics Engineer March 2015 to October 2015**

**Hutchinson Sealing Systems Church Hill, Tennessee 37642**

Primary responsibilities to improve existing automation systems and incorporate new systems to reduce labor cost while increasing production output. Reprogrammed existing robotic cells where 6 robots were utilized to apply adhesion to raw glass in for rubber/plastic sealing to be applied secondary operation. Increased output of each cell by more than double of its previous output without any additional hardware. Prior to this, the fastest run on the raw glass was 41 seconds which was achieved on the glass with simplest path for adhesive trace. After completion of the programming of the robot, cycle times were lowered to 19.5 seconds which more than doubled the output of their other 5 robots. This was also achieved on the product requiring path accuracy to be less than 1mm and consisted of product having the most complex path to execute. After implementation, 3 of the 6-robotic cell were all that would be utilized since they could make production numbers with only 3 cells. Labor savings was also ascertained since one operator could now load/unload raw and finished product eliminating the second operator in this operation.Maximizing throughput of these cells also freed 3 robot cells to be used for other processes. Utilizing Fanuc’s simulation software RoboGuide proved essential to minimize cycle time, introduce operator messages to assist operation, maintenance and fault recovery.

**Automation Engineer March 2014 to February 2015 Millennium Mat Company Suwanee, Georgia30024**

Lead integrator for newest R-J3 robotic systems used to replace older type R-H controllers. Specializing in motion control systems, I have over twenty years’ hands on experience both CNC and PLC systems and almost ten years in robotic motion control. Proficient with writing code in both advanced TPP and KAREL programming utilized in FANUC R-J controllers up to present. Integrated R-J3 controllers to determine mat location with COGNEX vision systems. Integrated controllers to perform rapid measurement of mats utilizing laser devices for PASS/FAIL quality support. Integrated advanced fault and collision recovery programming into robot controller. This referenced the robot to a home position and eliminated the need to manually recover. Programmed Allen Bradley PLC’s using RSLogix 500/5000. Programmed HMI’susing Factory Talk to support production on an as need basis. Modeled using SOLIDWORKS 3D CAD software utilized to reconstruct the mechanical design of new systems for implementation. Knowledgeable with Indusoft software utilized for HMI data acquisition and PLC control.

**Maintenance Specialist August 2010 to November 2013**

**Advanced Technology Services Peoria, Illinois 60610**

Provided advanced technical support, installation, integration, maintenance and on-site service to ATS customers. Experience maintaining machinery that utilizes AC/DC servo systems, AC/DC spindles, Linear motors and variable frequency drives to control equipment. Duties were primarily to assist customers needing technical support, service and troubleshooting skills to solve problems with critical equipment or complex machines. Comfortable supporting systems that require the highest level of technical skill and knowledge found in manufacturing today. Well rounded in troubleshooting electronic/electrical circuits, hydraulic, pneumatic and mechanical systems. Primary instructor for ATS’s first robotic training courses held at Illinois Central College. Classes were held primarily for technicians who were required to maintain and support Fanuc Robotic systems ranging from RJ1 to R-J30iB control units and various mechanical units and ATS sites. 3 different classes were offered starting with basic TPP navigation/programming to mechanical teardown/rebuild and ended with Advanced TPP programming structure and execution. Lead integrator on small robotic projects where customers wanted robot integration with CNC’s mmachine tools. This type of integration primarily uses the robot to efficiently and precisely load and unload parts for machining. Usually small, cells generally consisted of one to four CNC lathes or mills that when fully automated with robotics achieved faster throughput while saving on labor. Member of ATS’s TechConnect center used to assist technicians with Mitsubishi CNC’s, Mazak machine tools, Fanuc robots and Allen Bradley PLC’s

**Controls Specialist September 2004 to August 2010**

**Kroeschell Operations Pendergrass, Ga. 30567**

Provided advanced technical support, installation, maintenance and on-site service while assigned to CaterpillarFuel System. Responsibilities were to maintain production and implement changes to various automated systems in a hi-speed production facility. Automated systems include Fanuc robotics systems, Adept robotic systems, AB PLC’s / AB Motion Control Systems / AB HMI’s all of which utilize DeviceNet to interface with one another for complete system integration. Familiar with a multitude of diversified products used in automation such as robot’s, PLC’s, test equipment, servo drives and variable speed AC/DC drives utilizing PWM modulation to manipulate motor control. Proficient in the implementation of safety systems, for instance, light curtain’s, door interlock switching and various motion detection systems. Extremely knowledgeable on the basic principles of electronic and electrical systems used in power supplies, motions controls, and microprocessor systems whether based on Intel, Motorola, Zilog or AMD. Exceedingly capable of effecting and diagnosing hydraulic systems, pneumatic systems and complex mechanical systems used in the automated systems seen today. Programmed and repairedInsignia, Signature and Lumonics laser welders and engravers. Programmed and installed Fanuc Visloci and Cognex vision systems that utilize optics for part location and orientation.

**Regional Engineering Representative November 1999 to July 2002**

**LEO Electron Microscopy, Inc. Thornwood, New York 10594**

Southeast engineering representative for Zeiss and Leica made Scanning Electron Microscopes. Responsible for all hi-resolution Field Emission SEM’s which can resolve below 10Å. Sole engineer assigned to JETSCAN project which test and analyzes jet engine oil to determine possible engine malfunctions in U.S. Air Force Jets at Shaw AFB. I installed the first electron beam lithography system in the southeast United States capable of writing patterns down to 90nm. Proficient with vacuum systems capable of pulling 1e-10 Hector Pascal such as Turbo Molecular, Ion Getter and a wide range of oil diffusion pumping systems. I have extensive knowledge of DC power supplies ranging from 3.3 to 30kV. Worked with multiple electron detectors such as In-Lens, Secondary, Back Scattered and Energy/Wavelength Dispersive Spectrometer’s used in X-ray microanalysis. I am proficient with all aspects of electron optics including condenser/objective lens, stigmator’s, apertures to extend the range of sample observation and different electron sources such as tungsten, LaB6 and Thermal Field Emission. I have worked with many different specimen stage configurations including 6-axis Micro stages with sub-micron accuracy. I have trained on new Crossbeam Workstation which uses the FESEM together with a high performance focused ion beam for material analysis and semiconductor applications.

**Technical Support Engineer October 1993 to November 1999**

**Mitsubishi Electric Automation, Inc. Norcross, Georgia 30071**

Provided technical support, training and on-site service for the automation industry. Proficient with a variety of systems including Programmable Logic Controllers, Computerized Numerical Controllers, Variable Frequency drives, Servo Controllers and graphic operation terminals utilizing technology that ranges a span of over twenty years. Knowledgeable in many different CPU applications, motion control, feedback systems, mechanical systems and high level PLC interface with numerical controllers. Programmed PLC’s for Mitsubishi’s latest line of numerical controllers and very conversant of Ladder Logic and Diagrams. Designed simulator stands used to diagnose problems that can occur in the field. Trainervarious service engineers, distributors and, OEMs on basic PLC and CNC programming. Organized and distributed all technical documents. Expert with many different hi-tech machines such as CNC lathes, milling centers androbotics. Knowledgeable in Flexible Machining Systems using a complex integrated network of Machine Tools, robots and computers to manufacture products, virtually without the need of human assistance.

**31K10 Combat Signaler August 1985 to August 1989**

**United States Army/E-4 Zirndorf, West Germany**

Operated, installed and repaired AM Teletype, FM Receiver/Transmitters, Switchboards and telephones. Supervised Radio Repair Section and placed charge of all Battalion communications equipment. Programmed security codes (COMSEC) used for deciphering and ciphering communications transmissions as well as maintained the security of all classified equipment. Nominated for the White House Communication Agency in 1988 after placing 1st in US ARMY EUROPE Signal Competition with a perfect score. Honorably discharged in 1993 after completing 4 years active and 4 years inactive duty for the United States Army.