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EDUCATION

University of Pittsburgh, Pittsburgh, PA
Bachelor of Science Degree
Major: Computer Science
Minor: Math

EXPERIENCE

Software Engineer
January 2019 – February 2019
Site: Carbon Steel Inspection

- Based on MVVM architecture developed a Data Acquisition configuration form for a pipe inspection scanner
- Developed control panel software (push, pull buttons), in C++, for servo-motors
- Discovered a wiring problem with the pin out connector
- Technical Experience: Microsoft Visual Studio 2017, C# .net framework, C++
- xaml, Load Jack DAQ

Software Engineer
May. 2018 – June. 2018
Site: Precise Biomedical

- Provided sustaining software support for medical imaging injector system
- Technical Experience: C++, VxWorks

Software Engineer
Sept. 2017 – Oct. 2017
Site: SCI

- Base on the PIC32 starter kit from Microchip configured the PICMZ2048EHF144 MCU via Harmony framework and base on an event input developed a test routine for the digital I/O
- Development was the precursor for the night vision goggles for the Army
- Technical Experience: ‘C’, MPLAB IDE, PIC Microcontroller, Harmony

Software Engineer (Code Inspector)
April 2017 – Oct. 2017
Site: DRS

- Inspected C/C++ source code for defects
- Technical Experience: C/C++, Inspection Techniques

Software Engineer
February 2016 – June 2016
Site: Raymond Corporation

- Developed test software for the hardware components on the Vehicle Manager SBC
- The Vehicle Manager SBC provided real-time control for their product line forklifts
- Technical Experience: 'C', TM4C129 MCU, Eclipse IDE, GPIO

Software Engineer
Oct. 2015 – December 2015
Site: Bombardier

- Provided requirement analysis for NYCT R179 project
- The requirement analysis aided in the documentation for the NYCT R179 project
- Technical Experience: DOORS, Agile (SCRUM)

Software Engineer
April 2015 – May 2015
Site: TTI

- Provided software bug fixes for a battery management software using MPLAB X IDE and Real ICE
- Technical Experience: 'C', MPLAB IDE, Real ICE PIC Microcontroller

Software Engineer
January 2014 – March 2014
Site: Harris Corporation

- Provided software bug fixes for the DSP code portion of the Joint Tactical Radio System
- Technical Experience: 'C', Unix, GNU Cross Compiler, DBG

Software Engineer
April 2013 – October 2013
Site: Volvo Truck

- Provided telematics bug fixes for the TGW (embedded informatics system) via Devtrack in a Rhapsody IDE
- Provided validation testing for the TGW

- Technical Experience: Rhapsody UML modeling IDE (code generated in C++), CANalyzer (J1929), Navigator (J1587)

Software Engineer
August 2011 – February 2013
Site: Westinghouse Nuclear Automation IV&V

- Provided verification and validation of software requirements via DOORS and code review of the AC100 AMPL for the Loop Controller(LC) Control Channel Gateway (CCG), Group Controller(GC) and Plant Protection System (PPS) software subsystems
- Provided Software Element Testing for custom pc elements
- Provided Requirement Traceability Analysis for the Reusable Software Elements Document
- Technical Experience: DOORS

Software Engineer
April 2011 – June 2011
Site: Westinghouse Nuclear Automation IV&V

- Provided PMST functional testing of the Control Channel Gateway(CCG) software component of the Engineered Safety Features control system
- Created a test harness with ABB Application Builder and Function Chart Builder, proprietary Standard I/O Simulator(SIOS), NI LabVIEW and Object Linking and Embedding for Process Control (OPC)
- Technical Experience: ABB Application Builder and Function Chart Builder, Proprietary Standard I/O Simulator(SIOS), PLC

Software Engineer
February 2010 – March 2010
Site: Westinghouse/Repair Replacement and Automation Services (RRAS)

- Developed, on a TI CC2510 development board, a wireless link for the transmitting and receiving of Self Powered Detectors (SPD are used to monitor the activity of the Inner Core of the nuclear reactor for core operational management)
- Using the ZigBee RF protocol encrypted data with Advanced Encryption Standard
- Maintain battery life via MCU sleep mode
- Technical Experience: TI CC2510 development board, ZigBee RF protocol, Advanced Encryption Standard, IAR IDE

Software Engineer
November 2009 – January 2010
Site: Draeger Safety

- Ported a bootloader from a TI MSP430F449 MCU to a TI MSP430FG4618 MCU for a gas detection instrument
- (serial link was over UART IrDA port)
- Documented, with Visio, the flow control of the bootloader via flow charts
- Technical Experience: TI MSP430FG4618 MCU, Visio

Software Engineer
March 2009 – September 2009
Site: Medrad/Radiology

- Maintaining software test procedures for SSXP and SSEP unit/integration testing
- Wrote ACUMgr SDD from code analysis
- Maintaining SDD and User Interface Description documentation for SSXP
- Participated in code reviews for SSXP Software Change Requests
- Designed and developed, in C++, C# (.Net Framework) on a VxWorks and windows platforms respectively. software change request for the SSXP
- Technical Experience: C++, C# (.Net Framework), VxWorks 5.3

Software Engineer
May 2008 – March 2009
Site: Medrad/ Cardiovascular

- Based on the application note AN429 “A CAN open Stack for PIC18 ECANTM Microcontrollers” designed and developed TPDO’s, RPDO’s to provide class 0 functionality of the DSP425 protocol.
- Integrated, in the CANOpen Stack, RS-485 interrupts to interface to the ISI.
- Design and developed, in C++ on a VxWorks platform, enhancements software for the Avanta Injector
- Participated in code and document reviews for Avanta EP Software Change Requests
- Wrote test protocols for unit/integration testing of Avanta EP Software Change Requests
- Technical Experience: C++, VxWorks, PIC MCU, application note AN429, CAN

Software Engineer
July 2007 – February 2008
Site: Medrad/Radiology

- Designed and developed, in C++ on a VxWorks platform, the pressure calibration enhancements to the Spector Solaris Navitas EP Injector System.
- Maintained the Tricorder SDD Changes document

- Participated in code and document reviews for pressure limits and pressure calibration enhancements to the Spector Solaris Navitas EP
- Wrote a test protocol for unit/integration testing of the pressure calibration enhancements.
- Performed V&V test protocols for the Injector and Software Internal Functional Test (SWIFT) enhancements
- Technical Experience: C++, VxWorks 5.3

Software Engineer
September 2006 – March 2007
Site: ITT

- Utilizing Rational Rose Real Time UML designed three CSC's (CCM Interface, Discrete Signal Handler, Hardware Library) for the Spacecraft Interface Simulator (SIS). Design consisted of Class, Sequence, Structure and State diagrams.
- Developed the Hardware Library, in C++ running on a VxWorks platform, for a PPC on a cPCI
- Technical Experience: Rational Rose Real Time UML, C++, VxWorks, PPC. cPCI

Software Engineer
June 2006 – September 2006
Site: Hamilton and Sundstrand

- Provided requirement analysis, utilizing UML (ARTiSAN Real-time Studio), for software modeling of the Power Distribution Remote Control (PDRC) CSCI
- With the allocation of systems requirements, derived high level software requirements for the Software Requirements Architecture design phase
- Utilizing UML (Artisan real-time studio) modeled software requirements for the generation of the Software Requirements Document (SWRD)
- Technical Experience: ARTiSAN Real-time Studio

Software Engineer
June 2005 – April 2006
Site: Orbital Sciences Corp.

- Ground base Midcourse Defense (GMD)
- Documenting of the Software Developers Guide (SDG) for Orbital Boost Vehicle (OBV)
- Software analysis of the flight computer software
- Technical Experience: C++, IBM Rhapsody UML, VxWorks 5.3

Software Engineer
November 2004 – June 2005
Site: Smiths Aerospace

- Maintain embedded test application, in ‘C’ running on VxWorks653, for System Integration and Informal Testing
- Running test applications to gather results data for analysis of BSP device driver’s modules
- Compliant with DO-178B standards verified software requirements via source code trace
- Technical Experience: C++, ADA, DO-178B, VxWorks AE 653

Software Engineer
December 2003 - August 2004
Site: Norden Systems Northrop Grumman

- Defined software requirements for the Data Capture and Injection System
- (DCIS is a testbed of test sets for the Multiplatform Radar Technology Insertion Program)
- Utilizing UML, designed a message passing protocol for the Control SBC and remote host
- Utilizing UML, designed the software architecture for the Control SBC
- Developed, on VxWorks(VxSim) platform implemented in C++, the Control SBC
- Technical Experience: C++, VxSim, IBM Rhapsody UML

Software Engineer
August 2003 – November 2003
Site: Motorola BCS

- Developed, in ‘C’, a RF switch application module for a HFC headend platform (Omnistar GX2) Created OID in a MIB file for the switch.
- Generated a detail design spec. for the rsw1000b
- Technical Experience: ‘C’, OID/MIB file, IAR IDE

Software Engineer
May 2001 – April 2002
Site: Glenn Research Center/NASA (Fluids Combustion Facility)

- OOAD and OOP for a CAN environmental test, implemented in C++ on a VxWorks platform, for the CIPSU
- Design and developed a POST, in ‘C’ on a VxWorks platform, for the CP302 SBC
- Modified the CAN device driver to process in the little endian format
- Designed and developed, utilizing DAvE and Phytec c515c SBC, CAN bus processor packages to acquire telemetry data and provide command control via RS-232 (The packages required the integration and debug of hardware and software)
- Wrote/maintain, utilizing UML, software requirements and design documents for all the above development task

- Technical Experience: C/C++, VxWorks 5.3, DAvE and Phytec c515c, CAN, RS-232, cPCI

Software Engineer
July 2000 – February 2001
TimeSys Corporation

- Ported, for BSP, Linux/RT kernel and RK module to Microsystems VGM5 PowerPC based SBC
- Designed and developed a prototype GUI, with GTK, for a root file system builder
- Technical Experience: 'C', VGM5 PPC, GTK

Software Engineer
January 2000 – May 2000
Site: Carco Electronics

- Designed and developed a GPIB remote host interface for an inertial guidance test system.
- Ported DOS GPIB device drivers to a QNX platform which entailed programming initialization for a PCI bus
- Wrote design specifications for the GPIBRemote process
- Technical Experience: 'C', QNX, PCI, GPIB(IEEE 488)

Software Engineer
July 1998 – August 1999
Tollgrade Communication Inc.

- Design and developed, in 'C' on a M68HC11E1 microcontroller, commands for a craft port interface for the TEC3100 Digital Board (The interface commands aided in the board level debugging of the FPGA and framer chips)
- Maintained documentation for the TEC3100
- Designed and developed, in 'C', a proprietary protocol for an embedded 1K data link within a E1 bandwidth (TDMA)
- Ported the craft port interface to a M68HC11K4 platform for the Trunk Control Card.
- Technical Experience: 'C', M68HC11E1 MCU, NoHau ICE

Software Engineer
March 1998 – June 1998
Site: Black Box

- Developed a dipswitch configuration test for the SW590 Code Operated Switch II. Implemented in Z80 assembler for a Z80 SBC
- Developed a feature, in Z80 assembler, for the SW540 Code Operated Matrix Switch to run the self-test via control sequence
- Technical Experience: Z80 assembler, Black Box Switch

Software Engineer
September 1997 – January 1998
Site: Creative Productions

- Designed and developed a client server application, in Java, to provide password security to an FTP site. The server was developed with JDK 1.1 on a SCO Unix box (The client was developed with Microsoft Visual J++)
- Provided administration for Unix and Win95
- Technical Experience: JDK 1.1 Microsoft Visual J++, SCO Unix

Software Engineer
February 1997 - August 1997
Site: Contraves (OEM)

- Designed and developed testbed software for a Hot End Inspection System (HEIS) (The
- testbed software provides a statistical means of determining the image processing software
- performance. The application was implemented in 'C' on a Unix Sparc Workstation)
- Fine tune image processing algorithms, on a VxWorks platform, to optimize performance of the top profiler defect detection
- Technical Experience: 'C', Unix Sparc Workstation, top down profiler

Software Engineer
May 1996 - December 1996
Innovex Technologies

- Designed and developed, from functional specifications, database management service
- routines for a card security system (The routines provided access validation to the access control module via LonWorks network)
- Designed and developed a real-time task, on a SMX platform, to interface to the Microprocessor Interface Program (MIP) (The software was implemented for a 80x186 SBC)
- Technical Experience: 'C', SMX RTOS, LonWorks LAN, 80x186 Intel microprocessor

Software Engineer
February 1995 - May 1995
Site: Naval Air Warfare Center (NAWC)

- Maintained the data acquisition system for a Laser Light and Detection and Ranging (LIDAR) system (The LIDAR system is used to detect and track submarines)
- Utilizing structure methodology, translated from 68010 assembler to 'C' for the Analytek digitizer SBC
- Technical Experience: 'C', Motorola 68010 assembler, Analytek Digitizer SBC

Software Engineer
August 1993 - January 1994
Site: Westinghouse (PCD)

- Reconfigured a real-time OODB for a High Integrity Control System (HICS) (The HICS system is one of the integrated cubicles that control the vital functions of a nuclear power plant. Software templates were generated in 80x86 assembly language via graphical precalculator)
- Modified the application code, in PL/M86, that corresponded to the database changes
- Technical Experience: PL/M86, 80x86 assembler, proprietary graphical precalculator

Software Engineer
April, 1991 - November, 1992
Site: AEG Westinghouse (AWTS)

- Wrote structured analysis, software requirement specification and theory of operation documents for a regional ATO
- Ported a Portable Test Unit (PTU) from a 80x386 platform to a 80x186 platform for the brake propulsion board.
- Developed, in 'C', a ROM checksum and RAM check functions (BIT) for the brake propulsion board.
- Developed test stubs and control software for Bench Test Unit (BTU)
- Developed a GUI and downloading task for the BTU
- Developed from specification a data link for a data logger
- Technical Experience: ‘C’, brake propulsion board, BTU, Visual Basic GUI, CASE Tools (System Architect)
- VMEbus

Software Engineer
January, 1990 - January, 1991
Site: Westinghouse (PCD)

- Designed and developed data links for a Distributed Processing Unit (DPU) on a WDPF highway.
- Developed a serial driver, with BIOS, to interface an IBM XT to a Qline Serial Link Controller (QLC).
- Technical Experience: ‘C’, PASCAL, WDPF, QLC

Software Engineer
April, 1989 - January, 1990
Site: Cimflex Teknowledge

- Designed and developed TCP/IP-based real time data collection software, in 'C', for Computer Integrated Manufacturing (CIM)
- Documented functional specifications for Component Tractability for CIM

- Technical Experience: ‘C’, CIM, Sun SPARC Workstation
- Data General

Software Engineer
April, 1988 - April, 1989

- Developed a GUI for a network management system on a ISDN switch (Developed, in
- ‘C’ on a Unix platform, both command line and windows driven tasks that resided on the switch and host respectively)
- Technical Experience:’C’, ISDN switch, Unix

Dynatech Communication
Software Engineer September
1986 - April, 1988

- Developed a user interface for a LCD and keypad controller (The software was implemented for a multiprocessor 68000 based X.25 switch. Development was done on an Unix host OS)
- Gained working knowledge of the Open System Interconnection (TCP/IP stack) architecture.
- Technical Experience:’C’, 68000 assembler, TCP/IP stack