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Objective

Seeking for challenging position where my past experience and skill can assist in providing valuable contribution in the growth of an organization. I'm also looking forward towards learning new embedded software design and development methodologies, along with integration and testing techniques.

Strengths

- **9+ years of Software industry Experience**
- Experience in working for Federal government, fortune 500 and startup Company.
- Experience in embedded Linux and PSOS+ real time operating system
- Experience in integrating and testing audio and video codec, encoder, muxer and network streaming application on embedded Linux platform.
- **GUI development and Opera web browser integration using Qtopia Core** on embedded ARM Linux platform.
- Worked on development of **web-based system to control IP video phone.**
- Worked on various embedded firmware development emulators.
- Knowledge of embedded and DSP programming using **C and C++ language.**
- Experience with **ARM** and **PPC** architecture.
- Wrote **shell scripts on embedded Linux** in order to automate the testing of ad-hoc wireless protocol implementation.
- Implemented **IEEE 802.15.4** protocol on **AVR ATMEGA128L** microcontroller using **Chipcon 2420** as a part of my master's thesis.
- Aware of software development life cycle (**SDLC**), **SEI CMM level 5** methodology and **Six Sigma quality process**
- Capable of working independently or as a part of team.

Skill Set

RTOS : PSOS+, Embedded Linux

System Programming: DSP programming using **C, C++**, Qtopia Core (QT/Embedded), QT/X11.

Hardware : PPC750 on Synergy's VGMD board, MPC8360RDK, AMCC 440SPe Katmai, TI DaVinci DM644X, TI DM642, PPC EB8347, IXP425, TI MSP430 F149 microcontroller, Chipcon CC1020, Chipcon CC2420, AVR ATMEGA128L microcontroller.

IDE: pRISM+, CodeWarrior, Eclipse, AVR Studio, TI Code Composer, IAR Embedded Workbench, Dreamweaver, MS Visual Studio.

Debugger: GDB GNU Debugger, KD30, SingleStep debugger.

Hardware Description Language: VHDL

Awareness About Quality Processes: Worked in **SEI CMM level 5**. Aware of software development life Cycle (**SDLC**), SEI CMM process and **Six Sigma**.

Configuration Management Tools: **PVCS, Microsoft Visual Source Safe** and **CVS**.

Operating System: Linux, Unix, Sun Solaris Windows NT and Windows XP. Install and configure VMware virtual environment for Windows XP, Windows Sever 2003 and Linux.

	<p>Languages: Visual Basic, Developer 2000, Power Builder, Java, VC++, C, C++, Java, Object Oriented programming.</p> <p>Scripting Languages: HTML, VB script, Java Script, PHP, Perl, Shell Script, Sed, Awk.</p> <p>Database : Oracle , MySQL, SQL Server and Sybase.</p> <p>Packages/Tools used PC-Lint, Matlab, QT Designer , Microsoft Office SharePoint Server (MOSS) 2007, Microsoft Project, MS Visio. Microsoft Office: Well versed with all the suits of Microsoft office Microsoft Word, Microsoft Excel, Microsoft Power Point, Microsoft Access Database, made software to maintain and track library inventory records in Microsoft Access.</p>
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Work Experience	<p>Designation : Embedded Systems Engineer Duration : Sept 2007 – Till Date Organization : Diamond Information Systems, LLC</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> • Responsible for writing proposal based on user requirements and bug reports. • Create, track and update schedule of allocated tasks and funding. • Wrote proposal to procure Navy Seaport-E IDIQ contract vehicle. • Developed PHP based web portal for Navy Seaport-E contract. • Created SharePoint based GSA 8(a) STARS II Portal to procure contracts and proposal development. • Responsible for end-to-end SDLC support for software development, user acceptance testing and software releases. • Primary responsibility is to maintain and enhance PSOS+ based soft real time system used by US federal government agency to collect weather related data. • Designed and implemented security modules to make Automated Surface Observing System (ASOS) compliant with Department of Commerce password management security policy. • Integrated open source OpenSSL FIPS object modules along with existing software and compiled it for PSOS+ using Diab compiler. • Analyzed legacy PPC750 system using PSOS+ in order to migrate to embedded Linux. • Configured tool chain and created environment for porting existing application to embedded Linux. • Configured Freescale’s MPC8360RDK development environment, using USB TAP and CodeWarrior IDE. <p>Environment: Embedded Linux, PSOS+, C, MS Visual Source Safe, PC-Lint, pRISM+, CodeWarrior ,SingleStep debugger, GDB, DDD, VMware, MPC8360RDK ,Motorola PPC-750-on-Synergy’s VGMD board and Motorola 68K-on-Xycom, MS Visio , MS project, SharePoint, HTML, PHP.</p> <hr/> <p>Designation : Staff Engineer Duration : 2 years and 1 month (Aug 2005 – Sept 2007) Organization : Ingenient Technologies, Inc.</p> <p>Responsibilities:</p>
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- Embedded Linux application development to control one or more DSP.
- Integrating device drivers along with Linux user application.
- Programming DSP using C language and *Code Composer* as IDE
- Operate cross compilers, emulators, and debuggers.
- Integrating and debugging audio, video codec, muxer, demuxer and network streaming application.
- Integrating and debugging API's of multimedia standards like MPEG-4, MPEG-2, H.264, AAC, G711 and G726.
- IP Set Top Box application development by integrating DSP codecs and ARM9 Linux application.
- Worked on TI-Davinci, which has C644X core, and ARM9 based Linux core. *MontaVista* embedded Linux distribution was used to configure ARM9 Linux.
- Worked on Intel *IXP425* platform fixed on EBC2 motherboard of Kontron.
- Worked on *PPC EB8347*, ported PCI driver to make it big endian compatible.
- Configured ARM 9 based *IXP425* embedded Linux kernel and customized it using *Snapgear distribution*.
- Configuration of *Qtopia Core (QT/Embedded)* for ARM Linux and GUI development for embedded Linux. **Developed GUI for IP video phone using Qtopia.**
- Worked on of **web-based system to control IP Video.**
- Integration of *Opera embedded web browser along with Qtopia GUI.*
- Configured **AMCC 440SPe Katmai** board. Compiled U-boot for Katmai board.

Environment: Embedded Linux, U-boot, C++, C, CVS, Tortoise CVS, Code Composer, GDB , DDD, Qtopia, MS Visual Studio 6.0, VMware , TI Davinci – DM644X , TI DM642, IXP425, PPC EB8347, AMCC 440SPe Katmai.

Designation : Software Engineer
Duration : 2 months (June 2005 – July 2005)
Organization : Softnice, Inc

Responsibilities:

- Automate batch processes by writing shell scripts.
- Maintain and enhancement of Oracle database related batch processes.
- Monitor Manugistics supply chain management suit processes.
- Develop interface in order to exchange data with different systems

Environment: Oracle, Sun Solaris Unix, Shell Script, Manugistics.

Designation : Software Engineer
Duration : 1 year and 2 months (May 2004 - June 2005)
Organization : Nivis,LLC

Responsibilities:

- Developing firmware application, which reads the data from meter and do *wireless data transfer* in order to do *data acquisition* on Linux server.
- Being one of the main developers for developing software for Automatic Meter Reading (AMR) and transmitting the data by wireless medium using *Chipcon CC1020*.
- Implemented *I²C* module to communicate with Microchip *24LC256 EEPROM*

	<ul style="list-style-type: none"> • Also implemented various system maintenance modules like <i>scheduler, event generation, real time clock, registration</i> etc. • Test team lead for regression testing of developed firmware • Wrote <i>shell scripts</i> in <i>embedded Linux</i> in order to automate the testing of ad-hoc wireless protocol implementation. • Implemented ANSI standard C12.21 over serial port, to read utility industry end device data tables specified in ANSI standard C12.19 ANSI communication module in current application is used for C&I and residential meter readings. <p><i>Environment:</i> Embedded Linux, Windows, C, MS Visual Source Safe, IAR workbench, TI MSP430, Chipcon CC1020.</p>
	<p>Designation : Software Engineer Duration : 2 year and 6 months (June 2000 to Jan 2003) Organization : Patni Computers System Ltd</p> <p>Responsibilities :</p> <ul style="list-style-type: none"> • Communicating with fortune 500 companies clientele. Worked as a consultant for General Electric and Guardian Life Insurance. • Providing software as per their requirements and assisting them in operating developed software. • Designing and documenting software specification. • Documenting and maintaining developed software manuals for clients. • Being group lead, I was responsible for developing and delivering software on schedule, as per the dead line specified by the customers. • Was responsible to manage the resources and keep track of schedule during the execution of a project. <p><i>Environment:</i> Oracle, Developer 2000 Forms and Reports, Sun Solaris Unix, SQL, Shell Script.</p>

<p>Grad Work/Thesis</p>	<p>UNCC along with Dr. James Conrad Designing and programming of embedded systems</p> <ul style="list-style-type: none"> • As a part of my master's Thesis I implemented IEEE 802.15.4 protocol using AVR ATMEGA128L and Chipcon. • Implemented JTAG interface, with aim to communicate and download assembly program from desktop to the MSP430 mounted on small PCB. This PCB is used to operate small six-legged robot called Stiquito. • Worked on Mitsubishi toolkit MSV30262 and MSP430 evaluation board of MSP430F1121A and MSP430F1122. • Analyzed Ericsson Bluetooth application toolkit with an objective to implement Bluetooth protocol using Mitsubishi MSV30262. • Programming in C for MSV30262 and MSP430 • Studied Bluetooth, IEEE 802.11 and IEEE 802.15 protocol. • Helped in the design and enhancement of small six legged robot using MSP430 <p><i>Environment:</i> Windows, C, IAR workbench, TI MSP430, Chipcon CC1020, assembly language.</p>
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<p>Amateur Projects :</p>	<p><u>Diamond Corporate Website</u> Site URL: http://www.diamondis.com/index.php</p>
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	<p>Converted existing static website to PHP based website. Created extranet portal accessible only to Diamond employees. Authentication was done using MySQL database. <i>Environment:</i> PHP, JavaScript, HTML, CSS, MySQL, Adobe Photoshop</p> <p><u>Diamond Seaport-E Portal</u> Site URL: http://www.diamondis.com/SeaPort-E/index.php Created Seaport Enhanced Web Portal to provide services to the Navy for its Seaport Enhanced contracting strategy. <i>Environment:</i> PHP, JavaScript, HTML, CSS, Adobe Photoshop</p> <p><u>Diamond GSA 8(a) STARS II Portal</u> Site URL: http://diamondis.sharepointsite.net Created GSA 8(a) STARS II Portal to procure contracts and proposal development. This site is no longer active <i>Environment:</i> SharePoint, CSS</p> <p><u>Infra Red Communications Device:</u> Built IR full duplex Communications Device using Mitsubishi MSV30262, IR receiver and IR emitting Diode. <i>Environment:</i> C language, Renesas KD30 Debugger, Mitsubishi MSV30262, Vishay IR.</p> <p><u>Implementation of PC As A Wireless Remote Device Controller:</u> Used infra-red device to communicate between two computers. Parallel port was used to control infrared device. Software was written in C language. <i>Environment:</i> C language, DOS,IR receiver and IR emitting Diode</p> <p><u>Computerized Security System:</u> Involved Programming in C language and an interface between doors and a computer parallel port. Log report generation and intrusion alarm features were implemented. <i>Environment:</i> C language, DOS, latching relay</p> <p><u>CNC Machine prototype using Stepper Motor:</u> Developed software interface to control the movement of CNC machine using the parallel port of PC. System programming was done in C and GUI based application was developed in VB. CNC machine movement was controlled using stepper motor. <i>Environment:</i> C language, DOS, VB5, stepper motor</p>
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Honor's:	<p><u>Scholarship:</u></p> <ul style="list-style-type: none"> • Held Teaching Assistantship at UNCC in Electrical & Computer Engineering Department. • MP Science Quiz Scholarship. Secured 8th position in entire State <p><u>Awards</u></p> <ul style="list-style-type: none"> • Secured first position at national level in Software development contest. • At national level Technical Fest, achieved second position in prototype design contest, among all contestants from different colleges of India. • In Junior National Talent Search contest in Mathematics, was honored with a certificate of recognition at National level.
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Education	<p>University of North Carolina Charlotte, NC USA MS, Electrical & Computer Engineering</p>	<p>May 2006 GPA 3.7 / 4.0</p>
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	Barkatullah Vishwavidyalaya Now known as MANIT Bhopal, M.P India BE, Electronics & Communication Engineering	June 2000 GPA 3.7 / 4.0
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Training	<ul style="list-style-type: none">• RHD362 Red Hat Enterprise Linux Device Drivers• Oracle Database 10g: Advanced PL/SQL
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Certifications	<ul style="list-style-type: none">• 70-630: Microsoft Office SharePoint Server (MOSS) 2007 Configuring• 70-542: MOSS 2007 Application Development• 74-132: Designing Portal Solutions with MS SharePoint Products• Oracle10g Database Administrator Certified Professional• Oracle Database 10g Administrator Certified Associate• Oracle Database 9i Administrator Certified Associate
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