SONIA THAKUR
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Objective

To secure a challenging position that utilizes my work experience and engineering education in the field of embedded systems.

Work Experience

Hughes Network Systems LLC, Germantown, MD — Apr 2007- Till Date

Member of Technical Staff –II

- Working in Packet Channel Unit Subsystem (PCUS) of Satellite Base Station Subsystem (SBSS) project. The PCUS subsystem Interfaces with the GBBF (Ground Based Beam Forming) and implements signal processing and channelization functions.
- Responsible for the interface between PPC440 and the FPGA.
- Also responsible for the interface between the Management system and PCUS.
- Provide support for testing and debugging during Subsystem Integration and System Level Integration.
- Also responsible for Interacting with Customers and provide with the resolution for the field issues.

GE Energy, Melbourne, FL — Jan 2006 – Aug 2006

Quality Assurance Intern

- Implemented pre-defined test cases as test scripts for automated execution
- Performed analysis of test failures and report defects using the defect tracking system Clear Quest
- Assisted in Test case traceability by accessing customer requirement document and the Design document.
- Built and executed relevant test cases for regression testing before the release of the product and reduced the number of escaping defects

The University of North Carolina at Charlotte

Teaching Assistant, Department of Electrical and Computer Engineering — Aug 2006-Dec 2006

- Graded papers and assisted students in the graduate level Computer Architecture course.

Teaching Assistant, Department of Electrical and Computer Engineering — Aug 2005 – Dec 2005, Jan 2005 – May 2005

- Instructed students in the Instrumentation and Networks Lab
- Assisted them in the computer simulation of digital circuits using both PSpice and MatLab.

Research Assistant, Department of Electrical and Computer Engineering — Jun 2005 – Aug 2005

- Worked with Nekton Research, Durham, NC, on an Environmental Sensor board called Biobay.
- Programmed **PIC16F876A** Microcontroller.
- The data from the 16 biological sensors was logged from MAX1270 ADC using SPI.
- Configured Timer counter to trigger transmit interrupt to send the data to SBC.

Rb Comtec, New Delhi, India — Aug 2002 – Jun 2004

Technical Support

- Troubleshoot, maximized network utility, expedited problem resolution,
- Updated and upgraded system software for implementation and optimization of IP telephony networks.

Educational Qualifications

M.S, Electrical Engineering — Aug 2004 – Dec 2006
The University of North Carolina, Charlotte

- Thesis: *Embedded Linux platform to collect, analyze and store critical data for the navigation of an autonomous vehicle.* The objective of this project was to develop an Embedded Linux based navigation system consisting of a low cost inertial measurement unit and a GPS receiver for underwater vehicles.
- Implemented the device driver for an external ADC and logged data on a Compact flash card from an inertial measurement unit.
- This acquired data is then analyzed to estimate the position of the underwater vehicle.
- Published paper Titled *"Embedded Linux Platform to collect, analyze and store critical data for the navigation of an autonomous vehicle"* for South East Conference Chapter of IEEE.

Processor – ARM9 Development Environment - Linux

B.E, Electronics & Telecommunication May 1998 – May 2002
The University of Amravati, India

Projects Undertaken

- Worked on release Testing and debugging the Point to Multipoint System which was used as wireless backhaul solution.
- Ported Real Time Operating System (RTOS) uC/OS II on M30626 processor.
- Research paper on Vector Parallel Processor, which described the architecture of VPP 500 and also the design and advantages of the crossbar network.
- Two **MSV30262-**SKP boards were interfaced using Optical Fiber cable. The two boards were programmed to communicate through both UART and Serial I/O.
- **MSP430** was programmed to run round robin and transmit data to **MSV30262-**SKP board.
- Simulated a binary FSK communication system for Coherent FSK receiver.
- Research paper on "Scatternet formation in Bluetooth Networks", which addressed different approaches to the problems of device discovery and scatternet formation in multi-hop Bluetooth networks.

Relevant MS Courses

Introduction to Embedded System	Advanced Embedded System
Wireless Communication	Digital Signal processing
Computer Communication Network	Computer Architecture
Introduction to VHDL	Advance Theory of Communication

Computer Skills

Engineering Software:	GNU, GDB, Cygwin, MatLab 7.0, Orcad 10.1, AutoCAD, Cadence PSpice, VHDL, Renesas and PIC IDE.
Microcontroller:	PPC440,ARM9, Atmega48, PIC16F876A, and TI MSP430.
Languages:	C++, C, and Assembly Language.
Operating Systems:	UNIX, Linux, RTOS uC/OS II.
Tools:	Clear Case
Networking:	3G-GMR, ATM, TCP/IP, OSI Architecture, Wireless Standards, 802.11 Wireless LAN, Zigbee, Bluetooth.

Membership & Responsibilities

- Member of IEEE students chapter 2006 - 2007
- Member of Phi Beta Delta International Honor Society 2005 – 2006
- Executive member of Indian Society of Technical Education (I.S.T.E) 2000 – 2001

* References can be provided on request