Karthik Ram

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OBJECTIVE

An intern/fulltime position in Computer Engineering.

EDUCATION

Master of Science in Computer Engineering; *CSU-Sacramento; GPA: 3.3/4; Expected May 2010*

Bachelors in Electronics and Communication Engineering*; Visveswaraih Technological University -*2007

Certificate in Hardware & Networking*; BDPS Software limited - 2006.*

Certificate in Embedded System Development*; Indian Service Machine Institute, AICTE approved.*

Related Courses:

Computer Aided System Design & Verification*	Adv Operating System Principles & Design*	Advanced Timing Analysis*
Advanced Data Communication Systems	Operating System Principles	Computer Security
Micro Computer System Design I	Advanced Computer Architecture	VLSI Circuits
Hierarchical Digital Design Methodology	Advanced Logic Design	Fiber Optic Communication
Computer Communication Networks	Microcontroller & Applications	Digital Communication

**Fall 2009*

SKILLS

Operating Systems: MAC-10.4/10.5, Windows-95/98, 2k, 2k3, XP, Vista, Linux, z/OS

Microprocessors and Controllers: 8085, 8086, 8051 programming (Assembly level and C)

Programming Languages: VHDL, Verilog, HTML/XML/CSS, C, exposure to JSP, JAVA, C++, Perl, Python.

Computer Software & Hardware Applications: IBM's Rational Clear Quest, Norton Ghost, Adobe Photoshop, Xilinx, Keil, Model Simulator, MS Office, Exposure to QTP, Simics, Mat Lab, Tornado, Microwind, Synopsys

Communication and Leadership

- Presented a technical seminar on JTAG - Boundary Scan Architecture; IEEE Std. 1149.1 to a group of 45 engineering students at J.S.S.A.T.E college.
- Conducted software testing procedural training to group of new recruits at Celstream Technologies.
- Multilingual: Fluent in English/Hindi/Kannada/Tamil
- Skilled in technical writing.

PROFESSIONAL EXPERIENCE

Project Assistant ***Center for Information Assurance and Security, CSUS*** ***12/08 –07/09***

Prepared educational materials related to Certified Information Systems Security Professional (CISSP) to be presented for state agencies and conducted research activities on Smart Grid Security and Communications.

Software Test Engineer ***Celstream Technologies, Bangalore*** ***06/07 –07/08***

- Tested and filed defects in Printer & Scanner Device Drivers of XEROX Corporation printers which included the use IpSecurity features in peer as well as client/server scenarios on different Operating System platforms.
- Worked on multi function devices and other Printer Management applications such as Usage Analysis Tool (UAT) and Font Management Utility (FMU) and performed test development.

Project Development Intern ***S-Wave Systems Pvt Ltd, Bangalore*** ***01/07-05/07***

Integrated a micro miniaturized Ethernet controller with microcontroller: Our team of 3 members designed a printed circuit board for mounting a microcontroller (C8051F120). Also designed PCB for mounting an Ethernet controller (CP2200) and RJ-45. Interfaced the two PCB's and wrote functions for initializations, setting and resetting of flags of the complex controllers and transmission and reception of network packets.

ACADEMIC PROJECTS

Hierarchical Digital Design Methodology ***CSU, Sacramento*** ***01/09-05/09***

- ***Parallel-to-Serial Transmit Interface design*** (Using Synopsis VCS): Designed, simulated and synthesized a Parallel-to-Serial interface (PSI) capable of receiving a packet data, appending start and end delimiters to the packet, converting it to serial data, and transmitting it through a serial output. On one side, PSI was connected to a Direct Memory Access (DMA) master that would send it a packet to be transmitted. On the other side, it was connected to a Digital-to-Analog converter.

Advanced Data Communication System ***CSU, Sacramento*** ***01/09-05/09***

- ***Framing and Error Checking***: Implemented a data link layer on top of a virtual physical layer by building a message, transmitting/receiving data and verifying the correctness of transmission.
- ***Compression and Decompression:*** Implemented LZW compression/decompression scheme on the above mentioned project.
- ***Flow Control, Error Control and Piggybacking:*** Implemented sliding window protocol on the message along with negative acknowledgement.

Micro Computer System Design ***CSU, Sacramento*** ***01/09-05/09***

- ***PCI Card:*** Designed initiator device to initiate optimized read transaction for 4 bytes from a given address and the Target returns a specific data showing all the appropriate cycles.
- ***Cache-Memory Subsystem Design***: For Pentium-Pro processor we designed a cache subsystem with following requirements: Processor data bus width is 256bits, and processor address bits are 36. There is one look-through cache in the system (L1) using 4 way set association. Each way is 2KB in size. Cache system uses write back policy. System has one other bus master doing read cycles only.

Advanced Logic Design ***California State University, Sacramento*** ***09/08-12/08***

- ***ADC-SRAM Interface Design:*** Designed an interface to read and write the data from the ADC output to the SRAM using Verilog HDL and Xilinx Virtex FPGA board and display the current data on the LCD display.
- ***Flash-SRAM Interface Design***: Designed an interface to read the data from Flash and write the data to a specific address in SRAM using Verilog HDL and Xilinx Virtex FPGA board.
- ***Verilog / VHDL Logic Design Hardware Projects:*** ALU RTL design, sequence detector design, keypad interface, calculator design, scrolling LCD display, traffic signal controller design, counter design, real time clock design, Moore and Mealy FSM design in Xilinx ISE.

Advanced Computer Architecture ***California State University, Sacramento*** ***09/08-12/08***

- Learned computer classification schemes, fine and coarse grain parallelism, processor interconnections, and performance issues of multiprocessor systems.
- Created single and multi processor shared memory virtual systems using Virtutech Simics tool and simulated their performance when a multi-threaded program executes on it with different cache sub systems.

ACHIEVEMENTS AND PROFESSIONAL AFFILIATIONS

- Winner, Part One, “IBM Master the Mainframe” contest
- Achieved 100% marks in pre-university physics.
- Topper in the embedded systems development course at ISM.
- Active member, Institute of Electrical and Electronic Engineers (2007-2008)
- Active member, Association for Computing Machinery (2009)
- Volunteered in organizing and actively participated in career planning, Soft Skills Workshop at JSSATE.
- Founding member, Student Chapter of Indian Society of Technical Education at JSSATE.