CHAITANYA S. MISAL

2614 Winthrop Rd
Lincoln, NE. 68502

phone: (704)299-4500
chaitanyamisal@gmail.com

QUALIFICATION SUMMARY

1. Strong understanding and hands on experience of real time Embedded C programming skills.
2. Experience with embedded development tools like JTAGs, in circuit emulators, IDEs.
3. Experience with various controllers including 32-bit TI DSP for embedded development.
4. Experience with ZigBee communications and good understanding of embedded wireless technology.
5. Ability to learn new technologies, team player, strong interpersonal skills and very motivated.

WORK EXPERIENCE

1. **Lester Electrical, Nebraska, USA.** June 2007 - Present : ***Embedded Design Engineer***

Work – Built real time application for battery charger, I2C drivers for external memory chip and display panel, and RS232 communication for real-time data monitoring on TMS320F2801 (32-bit) processor.
Evaluated chipsets (TIMSP430, HCS08GT60, PIC18F4620) for ZigBee application development. Developed skills for strong embedded C coding, TMS Signum debugger and Code composer IDE.

2. **Digi International, Massachusetts, USA.** May 2006 – August 2006 : ***Embedded Software Engineer***

Work – Added functionality to NET real time operating system to perform core dump at the point of system crash. Built scripts using TCL /TK for automated test builds of source code and troubleshoot the old scripts and added new functionalities. Exposure to ARM7 and ARM9 processor architectures, version control, GDB debugger, GNU. Developed embedded C and Assembly programming skills in UNIX environment.

3. **University of North Carolina at Charlotte, USA.** Department of Electrical Engineering

Masters Thesis (August 2006 – October 2007): Analysis of Power Consumption of an End Device in a ZigBee Mesh Networking System.
Motivation was to provide knowledge of power consumption in wireless embedded systems for application developers. ZigBee stack exposure and embedded C coding in Code warrior IDE and debugger to test for various communication modes. Developed strong analytical and problem solving skills.

Research Assistant. August 2006 – February 2007
Work – Design and implementation of wireless mesh sensor network. C programming in UNIX environment for target ATmega128 microcontroller and exposure to JTAG - ICE mk2.

Teaching Assistant. August 2005 - May 2007
Work - Setup, teach and grade Logic and Network labs
Exposure to lab equipments including oscilloscopes, developed intercommunication skills.

4. **Bhabha Atomic Research Centre, Mumbai. India.** August 2004 - April 2005 : ***Project Trainee***

Work**-** Mathematical modeling of column pulsing mechanism. Development and simulation of model in Matlab. It strengthened my analytical research sills.

EDUCATION

Master of Science in Electrical Engineering — **GPA 3.80/4.0**
University of North Carolina at Charlotte — Dec 2007

Bachelor of Engineering in Electrical Engineering — **GPA 3.73/4.0**
University of Mumbai, India — May 2005

CHAITANYA S. MISAL

2614 Winthrop Rd
Lincoln, NE. 68502

phone: (704)299-4500
chaitanyamisal@gmail.com

COMPUTER SKILLS

Programming:	C, Assembly, TCL scripting, C++.
Microcontrollers:	TMS320F2801, M16C/62P, ATmega128, TIMSP430, 8051, ARM7/9
Software Tools:	GDB, GNU, Pspice, CVS, Cygwin, Debuggers. JTAG- ICE, Matlab
Operating systems:	Linux, UNIX, uCOS (light weight RTOS), Sun Solaris.
IDEs:	AVR Studio4, IAR Embedded workbench, MPLAB, Code warrior, Code Composer
Networking:	ZigBee, Bluetooth, TCP/IP, OSI Architecture, Wireless Sensor Networks.
Hardware:	Crossbow motes, Spectrum analyzers, Oscilloscopes, Multimeters.

PROJECTS

1. Processing the pH sensor output using **RenesasM16C62P** Microcontroller to give analog and digital output, and data logging in EEPROM
2. Porting **uCOS-II Real time operating system** on RenesasM16C62P and programming to interface with external devices via UART and serial I/O.
3. Device driver for interface of stepper motor with **TIMSP430** and **RenesasM16C62P** Microcontroller. Drivers helped achieve half, full and micro stepping
4. Adaptive traffic control using wireless sensor networks. Crossbow Mica motes with **ATmega128** target processor used for work.
5. Case Study of Intel Pentium IV architecture.
6. Image compression using Cosine transform and Huffman coding in Matlab.

Relevant Coursework

Embedded Systems	Worked with **Renesas M16/62P**, **ATmega169V**, **MSP430F1122** microcontroller, Embedded concepts and embedded C Coding.
Advanced Embedded Systems	Class projects in **RTOS - uCOS**, **MSP 430**, Sensors and Actuators, device drivers for peripheral devices, 802.15.4.
Advanced Computer Architecture	Instruction level architecture, ***RISC*** processors, **MIPS**, **Pipelining**
Wireless Sensor Networks	Applications, principles, design challenges and research issues on wireless sensor networks. Worked with **Crossbow mica motes**
Reconfigurable Computing	Design and implementation of **custom computing machines** using platform FPGAs. **Xilinx platform studio**. C programming
IT Project Management	Articulate the project management methodology
Digital Signal Processing	Image and voice processing concepts. Design and implementation of digital filters.

PAPER PUBLICATIONS

1. "*Designing a pH Data Acquisition and Logging Device using an Inexpensive Microcontroller*" at IEEE SoutheastCon, Richmond, Virginia. USA 2007
2. "*Mathematical Modeling of Pulse Column for Prediction of Pulse Column Parameters Used in Solvent Extraction*" at Indian Institute of Technology, Rourkee, India 2005

Other Achievements

1. Served as technical paper reviewer for IEEE Southeast conference 2006
2. Awarded 3rd prize in the Robotic competition, ISA organized event Fall 2003
3. Awarded 3rd prize in the Robotic competition, MESA organized event Spring 2004
4. Member of International High IQ Society

Professional Memberships

Member of IEEE
Member of ISA (Instrumentation Systems and Automation)