Sejal Chauhan

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CONNECT @

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SKILLS

PROGRAMMING

C • VHDL • Linux
Embedded Systems • Matlab

TOOLS

Simulink • PSpice
Altera Quartus • Xilinx SDK
ModelSim • Code Composer Studio
Feko

HARDWARE

Altera Cyclone II EP2C35
•Xilinx ML605

OTHERS

802.11 • Networking
RTOS

COURSEWORK

UNDERGRADUATE

- Basic Electrical Engineering
- Signal Transformations
- Network Analysis
- Electronic Devices and Circuits I/II
- Probability Theory and Stocastic Processes
- Communication Theory
- Computer Networks
- Microprocessor Systems
- Digital Signal Processing
- Object Oriented Programming and Operating Systems

QUALCOMM

- ARMv8 Architecture and Design

EXPERIENCE

QUALCOMM | Engineer

July 2012 – Till Date | Hyderabad, India

- A member of Wireless Connectivity group, we are involved in design and development of firmware and Linux drivers for Qualcomm's wireless chipsets.
- Primary functional area of working is Scanning and Worked on optimizing the scanning logic to ensure stable and fast connectivity.
- Closely worked with Android's Preferred Network Offload support in firmware with Privacy feature in Lollipop which is the latest Android version.
- Owner of 802.11r Roaming and Scanning modules for firmware in Qualcomm's Wireless solutions
- Developed good understanding of new and upcoming wireless protocols and standards like WFA's - WPS, P2P, WMM, NaN and IEEE 802.11ac/p

QUALCOMM | Industrial Internee

May 2011 – July 2011 | Hyderabad, India

- Worked with various softwares such as CRM, SBM, EC, Klocwork Static analysis tool, QPST©, QXDM©, Source Insight.
- Was selected as campus ambassador for the company.

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY | Summer Intern

May 2010 – July 2010 | Mumbai, India

- Development and Testing of Algorithms for Image and Video Compositing under Varying Illumination on Matlab.
- The Video Compositing under Varying Illumination project was of two months duration in which work was done on self-illumination of the moving objects in a video with the help of masks obtained by Stauffer Grimson and Chan Vese active contours' algorithm.

COMNET | Industrial Internee

November 2009 – December 2009 | Gurgaon, India

- Worked under "Activation, Discovery, Reconcilliation of System" project which was an internationally funded project.

EDUCATION

NATIONAL INSTITUTE OF TECHNOLOGY, WARANGAL

B.Tech Electronics and Communication Engineering
Ausgust 2008 – May 2012 | Warangal, India
Cum. GPA 7.85/10

KAKATIYA PUBLIC SCHOOL

Grad. May 2008 | Visakhapatnam, India
Score 93.2%

ACTIVITIES

- Vice President of SEDS (Students for Exploration and Development of Space) NIT, Warangal
- Sub Core member of technical fest - Technozion, 2010
- Additional Secretary of the ECE association - conducted Image Processing workshops, aptitude tests and various guest lectures to promote student skills.
- Built Gliders, CanSat (satellite in a can) and radio as part of a competition in an inter collegiate technical fest organized by NIT Warangal.
- Summited three mountains - Mt Pangarchuliya(17,105 ft), Mt Bhanoti(18,515 ft) and Mt Shitidhar(16,214 ft) in The Himalayas

ACADEMIC PROJECTS & RESEARCH

TRADING ACCURACY FOR POWER WITH AN UNDER-DESIGNED MULTIPLIER ARCHITECTURE

December 2011 – May 2012 | Warangal, India

- Researched a novel multiplier architecture with tunable error characteristics, that leverages a modified inaccurate 2x2 multiplier as its building block.
- Our research showed that inaccurate multipliers achieve an average power saving of 31.78% – 45.4% over corresponding accurate multiplier designs, for an average error of 1.39%–3.32%.

DESIGN OF CONFORMAL ANTENNAS USING NEURAL NETWORKS

July 2011 – May 2012 | Warangal, India

- Used neural networks to predict the best possible dimensions of an antenna patch that can be used on a surface of a cylinder or a cone at a particular given resonant frequency.
- The neural networks were trained initially by the results obtained from FEKO software.
- The predictions obtained from the neural networks were tested by designing and analyzing the antennas.

TRACKING A MOBILE ADHOC NODE IN THE MIXED NETWORK

July 2011 – November 2011 | Warangal, India

- The project simulates a mixed network with four wifi nodes and ten csma nodes using ns3. The wifi nodes are mobile and move in a predefined area. The mobility model predefined course change trace source is used to originate the trace events. Various tools are used to analyze the trace files while plotting probability of Beacon Reception.

IMPLEMENTATION OF RANK ORDER FILTER TO IMPROVE IMAGE QUALITY

December 2010 – April 2011 | Warangal, India

- Implemented software emulation for 2-D Rank Order Filter to remove specks while preserving the edges on Cyclone II EP2C35 FPGA.
- To optimize memory image was first converted to a text file that was fed in SDRAM FIFO.
- Implemented by adapting the bit serial approach by pipelining and parallel computing and that helped reduce the total CPU time considerably.

DIGITAL RESPIRATION RATE METER

December 2010 – April 2011 | Warangal, India

- Desgined a circuit that will count the number of inhaling and exhaling cycles in one minute.
- The system uses a displacement transducer for sensing the respiration rate using IR transmitter and receiver.
- This movement is sensed with the help of IR transmitter-receiver assembly of the sensing circuit and is converted into pulses through pulse generator.
- The respiration rate is displayed on a 3-digit display through the 7-segment decoder/driver.

AWARDS & RECOGNITION

2009	College	2nd in Litmux, Lantern and Mock Press which tests oratory, language and communication skills.
2006	National	Awarded Scholarship by the Governor of West Bengal for Exceptional performance in class X CBSE Board Examinations.
2003	National	Placed 3rd in shai (sparring) in the International South Asian Goju Ryu Karate Championship