ANURAG UMBARKAR

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ACADEMIC & PROFESSIONAL EDUCATION MILESTONES

- Doctor of Philosophy (Ph.D.) in Computer Engineering,

  ECE Department – Stony Brook University, NY   ***Jan 2010-Ongoing***

- Master of Science (Thesis) in Computer Engineering,

  ECE Department – Stony Brook University, NY   ***Aug 2010***

- Bachelor of Technology in Electronics and Telecommunication,

  Government College of Engineering, Pune, India   ***May 2008***
  (COEP is ranked among the top 20 Engineering colleges in India)

PROFESSIONAL EXPERIENCE

- Research Foundation – SUNY at Stony Brook (Title : Research Assistant)   ***Aug 2009 – Ongoing***
- ECE Department – SUNY at Stony Brook (Title : Teaching Assistant)   ***Jan 2011 – May 2012***
- ECE Department – SUNY at Stony Brook (Title : Graduate Assistant)   ***Jan 2010 – May 2010***
- Idea Cellular Ltd., India (Title : Graduate Engineer Trainee)   ***Jun 2008 –Aug 2008***

COMPUTER SKILLS

- Design/Validation Tools – PSoC Creator, PSoC Designer, ModelSim, Xilinx, Cadence, Proteus

- Software Skills – C, C++, Verilog, VHDL, MATLAB, Microsoft Office

- Worked on various microcontrollers and microprocessors using assemblers, simulators and design tools **–** Cypress PSoC1, PSoC3, PSoC5, ARM7, PIC, 8051

COURSEWORK

MS Courses
Advanced VLSI System Design, Hardware/Software co-design of embedded systems, Computer Communication networks, Computer Architecture, Computational models for Computer Engineers, Pattern Recognition (Data Mining), VLSI Physical Design Automation, Masters Thesis.

PhD Courses
Advanced VLSI Signal Processing Architectures, System Spec and Modeling, Game Theory in Electrical Sciences (Special Topics), Research Credits.

PUBLICATIONS

Journal Papers
- **A. Umbarkar**, V. Subramanian, A. Doboli, "Low-Cost Sound-based Localization using Programmable Mixed-Signal Systems-on-Chip", Microelectronics Journal, May 2010.

* References will be made available on request

Conference Papers

• **A. Umbarkar**, S. Kodasara, A. Doboli, "Online Construction of Analytical Prediction Models for Physical Environments: Application to Traffic Scene Modeling", AVICPS Workshop, IEEE Real-Time Systems Symposium, 2012.

• V. Subramanian, **A. Umbarkar**, A. Doboli, "Decentralized detection and tracking of emergent kinetic data for wireless grids of embedded sensors", NASA/ESA Conference on Adaptive Hardware and Systems, 2012.

• V. Subramanian, **A. Umbarkar**, A. Doboli, "Maximizing the Accuracy of Sound Based Tracking via a Low-Cost Network of Reconfigurable Embedded Nodes", NASA/ESA Conference on Adaptive Hardware and Systems, 2011.

• **A. Umbarkar**, V. Subramanian, A. Doboli, "Improved Sound-based Localization through a Network of Reconfigurable Mixed-Signal Nodes", IEEE International Workshop on Robotic and Sensor Environments (ROSE), 2010.

Books / Lab Manuals

• **A. Umbarkar**, V. Subramanian, A. Doboli, "Laboratory Manual for Mixed-Signal, Embedded Design using PSoC3", Jan 2011.

Papers Under Review

• A. Doboli, **A. Umbarkar**, "Experiments, Analysis and Observations on Creativity in Iterative Design of Electronic Embedded Systems", Creativity Research Journal (Submitted Jan 2012).

PROJECTS

• 'Robust Data Modeling in Distributed Sensing Environments using Adaptive Resource Management techniques', PhD Research

• 'Improved Sound-based Localization Through a Network of Reconfigurable Mixed-Signal Nodes', Masters Degree Thesis

• 'Design and Implementation of SPU Lite Processor with reduced Multi-media (MMX) Instructions': 7-stage pipelined Processor design project. This was implemented in Verilog HDL using Xilinx tools.

• 'Design and Implementation of a RISC processor', Semester Project: Used Cadence Tools and Verilog HDL to design the schematic and layout of the complete processor.

• 'SPI to USB Conversion Interface', Project sponsor: Honeywell Automation: Interface module between PC and HAIL wireless boards which use SPI protocol for on-board data transfer.

ACADEMIC ACHIEVEMENTS AND ACTIVITIES

• Editor of college magazine committee	*2006*
• 18th rank - HSSC board exam. Over 100,000 students participated	*2004*
• 40th rank – MSCET (Engineering). Over 200,000 students participated	*2004*

* References will be made available on request