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# Yogendra Namjoshi

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3408 Powelton Ave, Apt 2A, Philadelphia 19104 USA  
*Phone: 215-589-2475 | Email: yan25@drexel.edu*

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## PROFESSIONAL INTERESTS

Take up challenges in the area of digital hardware, encompassing from ASIC design to firmware development in Embedded Systems.

## EDUCATION

### Master of Science in Computer Engineering, Drexel University, Philadelphia, USA

Graduated : June 2007, available from August 2007

Current GPA : 3.68/4.00

### Bachelor of Engineering in Electronics Engineering, Mumbai University, India

Graduated : June 2003

Grade : First Class (A)

## WORK EXPERIENCE

### Master Level-Co-op, Interdigital Communications, ASIC, Summer-Fall 2006

Design ASIC components using VHDL and ModelSIM. Develop test-bench and generate test vectors to test the components. Documentation and version control using ClearCase Explorer.

### Sr. R&D Executive, Maestros Mediline Systems Ltd., Navi Mumbai, India, 2005

Develop prototypes for biomedical and telemedicine devices. Perform research on trans-telephonic communicator for portable EKG Recorder with LCD display. Supervise development-assistants. Test the prototype in indoor and outdoor scenarios under various circumstances. Perform ISO documentation.

### Graduate Engineer, Godrej and Boyce Mfg. Co. Ltd, Mumbai, India, Summer 2003- Winter 2005

Develop 8051 based microcontroller ASM code for beverage vending machines in Electronics Technology Solution provider. Upgrade of microcontroller code of furniture test machine. Rigorous testing of the hardware. ISO documentation.

## SKILLS

### ASIC & FPGA

- VHDL, ModelSIM, Xilinx Spartan III with Xilinx ISE 7.1 and XST
- CAD Tool Development and Algorithms

### Microcontrollers & Embedded Systems

- TI MSP430 Series, TMS320F2x, Atmel AT89c55, Cygnal C8051F127, Microchip PIC16F877
- Development, testing and debugging on firmware circuits
- Experience with External Memory Bus, RS232, I2C, SPI, QEP, PWM, Compare-Capture units, Analog/Switched Capacitor Filter circuits, Keyboard etc.
- Assembly (ASM 8051), Embedded C (IAR Embedded Workbench for MSP430, Kiel C)
- DSOs – Tektronics and Agilent, Emulator (Cygnal 8051 series JTAG based emulation)

### Engineering Software & Packages

- Programming software: C/C++, Matlab, ModelSIM, Xilinx ISE 9.1
- Network Analyzer: Ethereal
- Documentation: Microsoft Word, Microsoft Powerpoint, Microsoft Visio, ClearCase Explorer
- OS: Windows 98/2000/XP, Red Hat Linux 9, Ubuntu Linux 6.10
- Learning: Code-Composer for TI DSP and Labview

### Non-technical Skills

- Good knowledge of engineering manufacturing/constraints, cost, power related issues in design phase.
- Good organizational and multi tasking skills, can work on multiple projects based on multiple platforms.
- Strong interests in innovation and experimental research to improve efficiency of the system.

## PROJECTS

### Academia:

(listed according to time invested in the project)

#### **Stack Processor**, Xilinx Spartan III based development board, spring 2006, 2 months

Developed stack processor module, serial communication module, 7-seg display module and SRAM controller module, for Spartan III development kit. The top-level entity binds all the components. It allows serial download of the op-code from the C-based console into SRAM. Once the 'halt' instruction is seen, it enables the stack processor to execute the program, after which, it returns the value back to the computer.

**Skill Sets:** VHDL, ModelSIM, C-programming on DOS

#### **Statistical Timer Tool**, C programming based SSTA tool, spring 2006, 3 months

Parsing the ISCAS benchmarks, a cell library file and performing SSTA timing analysis to determine the critical paths in the combinational logic circuit. Applying SSTA heuristics to minimize specific metric such as area, power and delay. Results include computation of 7552 gates in 36 sec.

**Skill Sets:** C

#### **Client-Server communication**, transferring data from client to "localhost", winter 2007, 1 month

Client-server network programming in C on a Linux based environment. The protocol was designed and implemented as class assignment which involved ECG data transfer from the client to server.

**Skill-sets:** C, Ubuntu Linux, Client Server Network Programming

### Industry:

(listed in the descending order of experience)

#### **Various design components and their testing**, Interdigital Communication Corp., summer - fall 2006

The various projects at Interdigital were related to developing RTL (VHDL) components and test-benches. Generating test vectors for big components and finding errors involved in the main design.

**Skill Sets:** VHDL, ModelSIM, ClearCase, Computer Architecture

#### **Prototype design for trans-telephonic system**, Maestros Mediline Systems Limited, spring - summer 2005, 6 months

The project involved research on sending the analog ECG on the telephonic line using minimum power portable ECG equipment. The investigation on low power microcontrollers and components was done. The project also involved developing analog board at the receiver. The project was a research prototype for telemedicine product.

**Skill Sets:** Cygnal C8051F127, Microchip PIC16F877, TI MSP430, Switched capacitor filter National LM10, Op-Amp and other active components. Emulator, Embedded-C, Tektronix DSO

#### **Beverage vending machine development**, Godrej and Boyce Mfg. Co. Limited, 2003-2004, 16 months

The long term project involved microcontroller software (ASM) design and development of various beverage vending machines. The combination of the microcontroller and assembly was chosen for its low development cost and investment.

**Skill Sets:** Atmel microcontrollers, Micro-ASM, Assembler, Agilent DSO, passive and active hardware components

## AWARDS

#### **Dean's Fellowship**, Drexel University

Holding Dean's Fellowship for the graduate study in computer engineering.

#### **Award of Service Excellence**, Maestros Mediline Systems Limited

Honored with one of the annual award equivalent to Employee of the Year in R&D Department of Maestros.