

## **ASHOK RANGASWAMY**

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### **OBJECTIVE**

Seeking full time position in the field of Electrical Engineering, with emphasis on VLSI Design, System-on-a-chip and testing, where I can learn and contribute to the success of my employer through my strong technical, interpersonal and communication skills.

### **EDUCATIONAL QUALIFICATIONS**

**Master of Science**, Electrical Engineering **GPA: 3.5/4.0**  
University of South Florida, Tampa, FL, USA  
Graduation Date: 08/2003  
GRE: 2020 (Q – 800, A – 750, V – 470)

**Bachelor of Engineering**, Electrical and Electronics **Avg: 80/100**  
Bharathiar University, Coimbatore, India  
Graduation Date: 04/2000

### **TECHNICAL CREDENTIALS**

- Experience in **MOS device physics, Semiconductors characterization and Si and Thin film Fabrication**
- Experience in **VLSI Parallel Architectures (reconfigurable computing)**
- Exposure to **opto-electronic IC design**
- Experience in **VHDL, HSPICE, Layout designing and verification**
- Experience in **Power estimation techniques** for VLSI circuits
- Familiarity with **Frequency response, Noise and Non-linear** characterization
- Hands-on programming experience with **Unix shell scripting, C and VB.NET**
- Experience in preparation of technical reports, papers and presentations

### **INDUSTRY AND RESEARCH EXPERIENCE**

- **Information Specialist**, [Silo Technologies Inc.](http://www.silo.com), Tampa, FL, USA.  
*Jan 2004 to May 2004 (Co-OP)*
- **Graduate Research Assistant**, Dr. V.K. Jain, Centre for Signal processing and VLSI Architecture., University of South Florida, Tampa, Florida, USA.  
*August 2003 to December 2003*
- **Graduate Research Assistant**, Dr. Chris Ferekides, Thin Film Electronic Materials Lab, University of South Florida, Tampa, Florida, USA.  
*August 2001 to July 2003*
- **Trainee Engineer**, RealSoft Inc, Chennai, India.  
*May 2000 to May 2001*

## **PROJECTS AND LITERATURE SURVEYS**

- **Parallel Architecture for Independent Component Analysis algorithm (ICA).** Implementation of ICA solution based on J-Platform processors (reconfigurable-computing), which brings ultra high-speed objectives with high performance. This product is proposed to be used in many applications including image processors, military, sensor circuits and MEMS.
  - Matlab Implementation
  - Parallel architecture implementation using MA\_Plus and UNL
  - Tested with real time signals and images
  - Enhanced Architectures
- **On chip Optical Interconnects (SoC).** III-V Materials integration with Si, Device Models, VCSEL, photo detectors, wave guides, Si Lasers, path loss, Lens design, Transceiver high speed circuits and stand alone devices, optical switches
- **Reliability Analysis of Thin film Materials. (M.S Thesis)** Reliability characterization of p-n hetero junctions (CdTe-CdS) under light stress.
  - Testing chamber construction
  - Measurement Automation-Keithley 2400, LabView, PCI, Relay design
  - C-V (HP 4194A), wavelength dependent IV, spectral measurements
  - Effect of Copper migration
  - Effect of Heat treatment (CdCl<sub>2</sub>)
  - Thin film Fabrication – MOCVD, CBD, CSS, Evaporation
  - NREL Meeting, Colorado, 2003
- **Design Layout and Simulation** of 4-bit Array Multiplier, 4-bit Ripple counter and 4 bit Synchronous Counter using **Cadence Virtuoso** and **H-Spice simulator**; VHDL Model of a 16-bit Conditional Sum Adder using 4-bit Look ahead carry for reduced delay.
- **SoC Sensors.** Surface plasmon resonance, dielectrophoresis, CMOS Active Pixel Sensor, Ultrasound imaging, IsFET, DNA microarray, Camera on a pill
- **Project Ideas.** MEMS, homeland security solutions
- **Paper presentation on 'Robotics'** at a National level technical symposium
- **Collision avoidance Control in Robotics** (Under grad Project). Implementation collision detection and avoidance circuits using CMOS ICs.
  - Schmitt trigger, photo detectors, sampling circuit, low power
  - Steering control - Resistance Comparator, power supply, astable multi vibrator, Timer, LDR, relay circuit, differential Amplifier
  - Simulation Package using C
- Created **17** dynamic content management portals (VB.NET, SQL Server)
  - [Silo Technologies Inc](#)
  - [USA Tropical Flowers](#)
  - [ML Consult](#)
  - [Infinite Echelon Inc](#)
  - [In the News Inc](#)
  - [Freaky Freak](#)
  - [The Cooling Towers Inc](#)
  - [Goss Pumping Inc](#)
  - [Rodriguez Collection](#)
  - [Aerial Photography Inc](#)
  - [API Computer Training](#)
  - [North America temples](#)
- Project Management package (VB.NET and SQL Server). Implementation of time tracking, Reports generation, Clients information and confidential project details.
- Customization of MIS Package (Tally) using TDL. Very limited programmers in this domain. (Realsoft Inc)

## **COMPUTER SKILLS**

- **Programming Languages and Tools:** C, C++, HTML, Matlab, LabView, SAS;
- **Hardware Descriptive Languages:** VHDL;
- **EDA Simulators:** Cadence Virtuoso layout editor, Verilog-XL, Altera Max\_Plus, Hspice, Magic;
- **Assembly & scripting languages:** 8051, 8085;

- **Software Applications:** MS Office 2003(Excel, Word, Access, PowerPoint), Publisher, Visio, Telnet, FTP and other Windows based applications;
- **Web development:** Flash, Dream Weaver, MS Front Page, Photoshop;
- **.NET:** VB.NET, IIS 6.0, Win 2003 Server, SQL Server 2000, Query Analyzer
- **Operating systems:** Windows (95, 98, 2000, NT), DOS, and UNIX.

### TRAINING COURSES AND CERTIFICATES

- **Summer Training,** Lakshmi Mills Pvt Ltd, 1995
- **Unix & C:** Class Topper, PSG Computer Center, 1996
- **IMPACT:** Two Semesters, SSI, 1999
- **Summer Training,** Lakshmi Electrical Controls Systems Ltd, India, 1999
- **Corporate Training:** NIIT Corporate Division, 2000
- **Brain bench certified C++ Programmer,** 2000
- **Microcontrollers** and its applications, PSG Tech, 2000
- **VB and SQL Server,** DCL Training Center, 2000
- **Lab Safety Training** (U.S Standards), Tampa, FL, USA, 2003
- **Users Meeting, National Instruments,** Tampa, FL, USA, 2003
- **Advanced Technology Showcase,** (Certance, Intel, Promise, Supermicro, ATI, ASUS, Creative, Microsoft), Tampa, FL, USA, 2004

### HONORS

- **School Topper,** Presided over Republic day ceremony, 1993
- Honored in District level talent search, 1993
- **State Listed Scholar:** Covered 3 years tuition expenses, 1993-96
- Held N.S.S Joint Secretary Position, 1996
- **Best Outgoing Student, Proficiency Awards:** PSG Tech, 1996
- **Class Topper,** Undergraduate, 1996 -2000 (Except few semesters)
- **Executive Committee Member,** 1998
- **Web Master & Member,** SIA, USF, Tampa, 2001-2002
- **Merit Based Full Tuition Waiver, Graduate, 2001-2003**
- Guest Lecture in SoC Class, USF, Tampa, 2003
- Appreciation Notes from **Dr. Chris Ferekides,** 2003
- Honored by the Association of North American Temples, 2004

### GRADUATE LEVEL COURSES

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|----------------------------|-------------------------|
| • CMOS Digital VLSI Design | CMOS Analog VLSI Design |
| • Mobile Communications    | System on a Chip        |
| • PDE                      | IC Processing           |
| • Device Physics           | Semiconductor Devices   |

REFERENCES Available upon request.