Raghu Nandan Chilukuri

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Education

University of Cincinnati — **Cincinnati,OH,USA**
M.S.(Electrical Engineering) — 2011 - 2014

Birla Institute of Technology and Science(BITS)-Pilani (Goa campus) — **Goa,India**
B.Eng.(Hons) (Electrical & Electronics Engineering) — 2006 - 2010

Research

Spintronics and Vacuum Nanoelectronics Laboratory — **2012 - 2014**

- Numerical simulation of quantum random walks and modelling noisy quantum walks. (Advisor: Prof. Marc Cahay, University of Cincinnati).

Teaching Experience

Athletic Tutoring — **Fall 2012**

- Tutored introductory physics for student athletes at the University of Cincinnati.

Work Experience

Intel Corporation — **Bangalore, India**
Component Design Engineer — March 2016-present

- Worked in Front-End (FE) verification team, and the support and methodology owner for VCS, Certitude (both Synopsys), and Intel specific internal tools.
- Scripting support for internal EDA tools of Intel.

JustDial India Private Ltd. — **Bangalore, India**
Data Scientist — September 2015-February 2016

- Worked on implementing a recommender system for the e-commerce shopfront of JustDial
- Implemented features using custom versions of clustering algorithms

Cambridge Silicon Radio(CSR) India Private Ltd. — **Bangalore, India**
Firmware test Intern — February 2011-August 2011

- Characterizing physical parameters such as power, gain and stress-test of bluetooth chips.
- Testing the Bluetooth lower stack firmware for these new chips.
- Designed and implemented an audio test system to test different profiles for audio streaming and BLE (Bluetooth low energy) file transfer between multiple devices.

Dept. of Electrical Engineering,IIT-Delhi — **Delhi, India**
Change Detection Algorithms — October 2010-January 2011

- Change detection algorithms using segmentation and defocussing.
- Implemented using open-source computer vision libraries on a smart camera system.

Infinera India Private Ltd. — **Bangalore, India**
System Verification — January 2010-June 2010

- Board simulation and system level testing of a system of line cards.
- Implemented a basic Verilog parser for netlist parsing and verification.

Summer Intern

Vikram Sarabhai Space Center (VSSC) **Thiruvananthapuram, India**
Testing of control module electronics May 2008-July 2008

- Interfaced and programmed a PIC microcontroller to generate waveforms for testing control electronics module and mechanical characteristics of an electro-mechanical system.

Academic Projects

- Noisy Quantum walks: Working on an independent project on quantum-operator representation of noisy quantum walks in order to generalize noisy discrete quantum walk with Prof. R. Srikanth, PPISR, India (*2016*)
- Developed a routing tool (in C++) based on Channel Routing. The tool also produces a layout file for viewing with Magic layout editor. (*2012*)
- Implemented a variant of Kerninghan-Lin graph partition algorithm in C.(*2012*)
- Quantum Error Correction: Quantum error correction methods and a comparison of classical error correction techniques with their quantum counterparts. This project discusses few quantum error correction techniques as an extension of their classical counterparts. (*2009*)
- Selected Topics in Quantum Optics-Generation of Coherent States and Squeezed States : A study of semi-classical and non-classical optical states and their generation. (*2009*)

Papers/Technical Reports

- Dr.A.K.Biswas, Ch.Raghu Nandan, V.Jayanth,"A sphere moving down the surface of a static sphere and a simple phase diagram". (arXiv classical physics: `http://arxiv.org/abs/0808.3531v2`)
- "Design of a virtual Hawk-Eye system using LabVIEW" : A project to simulate the 3 dimensional motion of a projectile (a tennis ball in this case). This was submitted to 'VI Mantra 2009' contest by National Instruments, India, as a paper with the same name.

Graduate Courses

Semiconductor microfabrication — Fundamentals of MEMS
Electromagnetic Theory — Characterization of materials by optical methods
Quantum Mechanics — Quantum Computation
Semiconductor Physics — Advanced Solid State Physics(Many body theory-Green's function formalism)

Technical Skills

Languages: C, C++, Julia, Fortran, Verilog, Perl, Python, Assembly, LaTeX.
Software Packages: Matlab/Octave, Pspice, Xilinx ISE, Altera Quartus, Magic, LabVIEW
Operating systems: GNU/Linux, Windows

Academic Achievements

- Recipient of University Graduate Scholarship(UGS) at University of Cincinnati.
- Selected for Indian National Chemistry Olympiad (INChO), 2006 (top 1% among an estimated 20,000 aspirants who appeared for National Standard Exam in Chemistry- NSEC).
- Recipient of Merit cum Need scholarship of Bits-Pilani, Goa campus for six semesters.