

# RAGHU NANDAN CHILUKURI

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## EDUCATION

### University of Cincinnati

M.S.(Electrical Engineering)

GPA: 3.34/4

Cincinnati, OH, USA

2011 - 2014

### Birla Institute of Technology and Science(BITS)-Pilani (Goa campus)

B.Eng.(Hons) (Electrical & Electronics Engineering)

GPA: 8.06/10

Goa, India

2006 - 2010

## RESEARCH

### Spintronics and Vacuum Nanoelectronics Laboratory

Summer 2012 -

- Numerical simulation of quantum random walks and modelling noisy quantum walks. (Spintronics laboratory, University of Cincinnati).

## TEACHING EXPERIENCE

### Athletic Tutoring

Fall 2012

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

## WORK EXPERIENCE

### Intel Corporation

*Firmware testing*

Bangalore, India

March 2016 - present

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

### JustDial India Private Ltd.

*Firmware testing*

Bangalore, India

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.

*Firmware testing*

Bangalore, India

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

*Change Detection Algorithms*

Delhi, India

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.**  
*System Verification*

**Bangalore, India**  
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)**  
*Testing of control module electronics*

**Thiruvananthapuram, India**  
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

- Developed a routing tool (in C++) based on Channel Routing. The tool also produces a layout file for viewing with Magic layout editor.
- Implemented a variant of Kernighan-Lin graph partition algorithm in C.
- 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.
- 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.

## 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”. (Located in arXiv classical physics at: <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  
Electromagnetic Theory  
Quantum Mechanics  
Semiconductor Physics

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

## TECHNICAL SKILLS

**Languages:** C, C++, Julia, Fortran, Verilog HDL, Perl, Python, Assembly, L<sup>A</sup>T<sub>E</sub>X.

**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.