Email: saa034@ucsd.edu   Phone: 858-291-2224

SAHIL AGARWAL

Degree	Major	University	Graduation
Master of Science (**GPA: 4.0/4**)	Computer Science	University of California San Diego	2017 (exp)
Bachelor, Master of Technology	Electrical Engineering	Indian Institute of Technology Bombay	2015

- Obtained **All India Rank** of **176** in **IIT-Joint Entrance Exam** out of 450,000 students   ['10]
- One among **35 out of over 35,000 participants** selected for Orientation cum Selection Camp for the **International Physics Olympiad**   ['10]

INTERNSHIP EXPERIENCE

Clock Distribution in Integrated Circuits | University of California, San Diego   [May'13-July'13]
Research Intern; Guide- Prof Andrew Kahng, CSE

- Performed **worst-case analyses of zero- skew clock trees** (ZSTs) in VLSI Circuits
- Explored and compared the upper bound of ZSTs and other functionals of a geometric point sets
- Showed ZSTs exhibit different growth rates compared to functionals of geometric point sets like Steiner trees.

KEY PROJECTS

Desktop Application for Encrypting Google Drive files | Cryptography   [Fall'15]

- Used PyQt4 and PyCrypto libraries to develop an application that ensures privacy and integrity of the user's data on the cloud.
- Encryption/Decryption was done using AES block cipher in CTR$ mode. HMAC was used for authentication.

Implementation of a Parallel SAT Solver | Master's Thesis   [July'14-June'14]

- Developed parallel algorithm using decomposition based technique based on MiniSat 2.2 and GNU parallel
- Obtained **comparable performance** to modern parallel solvers for unsatisfiable instances

Fall Detector and Perimeter Monitoring Unit | Electronics Design Lab   [Jan'13-Apr'13]
*Developed a **cheap, wearable prototype** to detect and report if wearer suffers a fall or exits a safe perimeter*

- Implemented using PIC micro-controller, GSM module, GPS module, accelerometer along with a user display
- Received the **Akshay Dhoke Memorial Award** for prototype developed

TECHNICAL SKILLS

- **Programming languages**: C/C++, Python, Haskell
- **Tools**: Matlab, Latex, Git
- **Hardware Description**: Verilog HDL, VHDL, Bluespec System Verilog

TEACHING, LEADERSHIP ROLES

Teaching Assistant   [Winter'16]

- *Lead* TA for CSE 101 (**Design and Analysis of Algorithms**) at UCSD (2 other TAs, 4 tutors, ~150 students)
- Duties involve: Hold discussion sessions, office hours, course admin, setting exams and homework, grading

Tutor in Practical English Training Program   [Aug'13-Nov'13]

- Part of a 7 member team to improve practical English knowledge in freshmen weak in the language
- Organized the curriculum of 30 hours of classes; tutored a class of 20 students

Institute Student Mentor   [Apr'14-Apr'15]

- Mentoring 12 freshmen; providing guidance in achieving personal, social and academic goals
- Active in dissemination of information through the Freshmen Forum and Practical English Training Program

EXTRA-CURRICULAR ACTIVITIES

- Part of the **IIT Bombay Football Team:** Inter-IIT Camp (Dec'10), MDFA (Mumbai District Football Association) tournament (Aug-Sep'11)
- Declared the **Best Defender** in the Institute Football League among 200 players   ['11]
- Awarded **A Grade** in **Basic Mountaineering Course** at ABVIMAS, Manali   [May'11]