Sasank Chilamkurthy
Electrical Engineering
Indian Institute of Technology Bombay

110070051
B.Tech.
Male
DOB: 13/03/1994

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2015	9.53

Scholastic Achievements

- Received **Undergraduate Research Award** for outstanding research on Fractional Fourier Transform
- Awarded **Institute Academic Prize** for exceptional academic performance in the year 2013-14
- Completed Minor degree in **Mathematics** with minor CPI of 9.25 and currently pursuing Honors
- Secured **28th rank** in **IIT JEE**, **3rd rank** in **EAMCET** and scored **422 out of 450** marks in **BITSAT**
- Won **Gold medal** in Indian National **Chemistry Olympiad** and among the **Top 300** in the country to be selected for Indian national **Physics olympiad** and Indian national **Astronomy olympiad**

Internships and Projects

Coded Modulation for Coherent Optical Communication Systems *May 2014 - July 2014*
Guide: Prof. LA Rusch, Centre d'optique,photonique et laser (COPL), Quebec

- **Simulated** 16 QAM coherent modulation for optical communication system in **MATLAB** and performed **Monte-Carlo** simulations to obtain BER vs OSNR curves for various lasers and signal constellations
- Conducted back-to-back **experiments** on the setup, extracted phase data from raw data with offline **Phase Recovery DSP** algorithms and evaluated the coding gain of **Multi-level coded modulation**

LZW compression algorithm and decoding LDPC codes *Spring 2014*
Guide: Prof. Ganesh Ramakrishnan, CSE, IIT Bombay

- Programmed **Lempel-Zev-Welch** compression algorithm in **Java** and achieved **50 %** compression ratio
- Decoded LDPC codes with **sum-product algorithm** on specially designed datastructure: Factor Graph

Fractional Fourier Transform and Chirp Parameter Estimation *May 2013– Jul 2013*
Guide: Prof. VM Gadre, EE, IIT Bombay

- **Formulated** and **proved** correctness of a **DSP algorithm** to estimate chirp parameters from noisy samples. Evaluated accuracy of the algorithm in presence of noise by simulating the setup in MATLAB
- Proved **Uncertainity Principle** for a new generalized transform extending fractional Fourier transforms

Seminars and Workshops attended

Indo-European Winter Academy 2013, IIT Guwahati : **One of 5** selected to represent IIT Bombay. **Presented** a 1-hour **seminar** on **Optoelectronic Emitters** covering physical principles and devices

ITCSC-INC Winter School 2014, CUHK, Hong Kong : **One of 14** selected from India. Topics covered include **Information Theory** and **Fourier transform** for binary functions

Positions of Responsibility

Teaching Assistant *2012-till date*
MA 105 - Calculus; MA 106 - Linear Algebra; MA 108 - Differential equation

- **Tutored** 40-strength class once a week clarifying doubts along with duties like scrutinizing answer sheets

Joint Secretary, Electrical Engineering Students Association *2013-14*

- Restructured the policy of SPAS to streamline functioning in coordination with 50 professors which led to a 50 % increase in the number of projects floated and a **70 % increase** in successfully completed projects
- Planned and successfully executed 2 outings for 300 students handling a budget of **INR 1,20,000**

Publicity Manager, Aagomani 2013, Annual festival of EE Department *2012-13*

- Increased outreach of events leading to increase in footfall by 200% by handling budget of **INR 30,000**

Extra-Curricular Activities

- Attended NSERC summer school on **effective communication** at McGill university, Montreal. Practiced presenting **status reports** and **pitching in a project** in presence of industry experts
- Awarded *bien* grade in **Basic French course** attested by Alliance Francaise de Bombay