



S.Omsiri
Aerospace Engineering
Indian Institute of Technology Bombay

130010045
UG Third Year (B.Tech.)
Female
DOB: 05-07-1994

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2016	6.87
Intermediate/+2	A.P State	Vijaya Ratna Jr college	2012	90.00
Matriculation	I.C.S.E	Sri Aurobindo	2010	72.00

INTERNSHIPS

Beacon Based Navigation of Satellites | ISRO, Satellite Centre, Bangalore [May'15-Jul'15]

Guide: Dr. Vinod Kumar, Scientist/Engineer, Control Dynamics & Simulation Group, ISAC Bangalore

- Designed and simulated a system for precise orbit determination of **geo stationary satellite**
- Used multiple ground beacons and dual frequencies for precise estimation of atmospheric satellite
- Modeled satellite receiver readings and estimated different atmospheric delays
- Simulated the process in **MATLAB** using real data, achieved an accuracy of less than 500m
- With this technique multiple satellites can be tracked simultaneously

POSITIONS OF RESPONSIBILITIES

ABHYUDAY | Events Manager | Student Social Activities Body, IIT Bombay [May'15 – Apr'16]

Events

- Leading a 2-tier team of **50+ volunteers** for proper execution of events
- Organizing **SAARC student summit**, inviting students from 8 Nations to promote mutual development amongst SAARC Nations
- Spearheading collaboration with SAARC countries' embassies and universities of waive off the travel expenses of students coming from these countries
- Conceptualizing and planning Events like Lecture series, Panel Discussions, Workshops, Interactive sessions, Quora Meet-up
- Involved in structuring the Student Consulting Program to train student consultants for improving the efficiency of NGOs

Key Initiatives

- Launched **Career Counseling Campaign** to provide career guidance to underprivileged students, spearheading a team of 25, covering over 40 municipal schools in Mumbai
- Mentored student leader from 10 other colleges, helping them to conduct social activities in their campus
- Organized **Cleanliness drive** and Pledge for cleanliness at Kanjurmarg station, leading a team of 20
- Lend your voice - Helping visually impaired to overcome their incapability**
 - Leading a 2-tier team of 20+ students
 - Managing a team of 30 students of National Social Services who record books related to civil exam

CONVENER | Institute Skating Club [May'14 - Apr'15]

- Successfully conducted 4 skating camps for beginners and trained around 40 students in beginner/slalom skating
- Succeeded in allotting a separate rink for skating in institute Students' Activities Centre
- Single-Handedly** conducted Summer camp-revamped sessions and achieved **90%** y-o-y increment in student participation

TECHNICAL SKILLS

- Programming languages** - MATLAB, Python, C, C++
- Softwares** - Solid works, AutoCAD (basics), Arduino, MS office
- Mechanical** - Engineering drawing, Metalworking, Machining, Lathe, Welding, Fitting
- Operating system** - Windows, Ubuntu

PROJECTS

Supervised Learning Program Optimization in Navigation	[Jan'16-Present]
<i>Guide: Dr. R P Shimpi, Professor, Department of Aerospace Engineering, IIT Bombay</i>	
<ul style="list-style-type: none">Optimizing geosynchronous satellite constellation for independent regional navigation and positioningApplying Genetic Algorithm techniques to obtain the constellation parameters	
Technical analysis of Polar Orbital Earth Satellite (NOAA-19)	[Apr'15]
<i>Guide - Prof. Ashok Joshi, Aerospace Engg., IIT Bombay, Spaceflight mechanics course</i>	
<ul style="list-style-type: none">Estimated launch and burn profile of the satellite NOAA-19 and studied its nature of orbitAnalyzed the reasons for failure of previous versions of POES and modifications made in NOAA-19Presented a detailed analysis of the mission and the key events in its travel	
Case study on working of an NGO	[Mar'15]
<i>Guide - Prof. Pooja Parang, Humanities and Social Sciences, IIT Bombay</i>	
<ul style="list-style-type: none">Analyzed working of Make-a-Wish organization under the lens of Organizational Behavior theoryPresented difference in working patterns of NPO (make-a-Wish) and Profitable Org (Housing.com)Applied Organizational Behavior principles in analyzing certain parameters attributed in the success of an organization	
Studio Project	[Jan'16-Present]
<i>Guide-Prof. B.K Chakravarthy, Industrial Design Centre, IIT-Bombay</i>	
<ul style="list-style-type: none">Designing a post man bag based on the utility, durability and flexibilityEnhances the brand image of India post	
Institute Technical Summer Project	[May-Jun'14]
<i>Robotic Club, STAB IITB</i>	
<ul style="list-style-type: none">Successfully built an Animatronics Hand in a team of 4Designed a Robotic hand which replicates human hand gestures using accelerometerGoing off track by using rotatory pots instead of linear pots for sensing gestures and Arduino for converting physical signals to digital	
Visual Communication Project	[Nov'14]
<i>Guide - Prof. Raja Mohanty, Industrial Design Centre, IIT Bombay</i>	
<ul style="list-style-type: none">Directed and cinematographed a short film on the theme 'One day studies' using video editing softwares like, Photoshop, Sony Vegas, Windows Movie MakerManaged a team of 7 members who acted in the film	

TECHNICAL ACTIVITIES

Hovercraft Competition (<i>Aeromodelling Club of IIT-Bombay</i>)	[Jan' 15]
<ul style="list-style-type: none">Designed RC hovercraft using lift mechanism with the use of propellers for movement and rudders for changing directionsCompleted curved track in minimum possible time; awarded 4th position out of 16 teams	
RC Plane Competition (<i>Aeromodelling Club of IIT-Bombay</i>)	[Mar' 14]
<ul style="list-style-type: none">Designed a swept wing Remote Controlled plane using propellers and servo motorsSucceeded in flying the plane as per the given problem statement	
Water Rocket (<i>Aeromodelling Club of IIT-Bombay</i>)	[2013]
<ul style="list-style-type: none">Designed a single stage water rocket using a plastic container that uses a combination of pressurized air and water for propulsion to achieve either maximum range or time of flight	

EXTRA-CURRICULAR ACTIVITIES

Dance	
<ul style="list-style-type: none">Participated in Sophie Dance league-2014 and secured 1st position out of 10 teamsTrained in Kuchipudi dance form for 3years under the guidance of K. Krishna Kumari	
Sports	
<ul style="list-style-type: none">Won 1st place in relay running competition in Athletics General Championship-2014Awarded 14th position in 6 km Crossy General Championship-2014 out of 30 participantsSecured District level 3rd position in Speed Skating Competition-2007 conducted by Bal-Bhavan	

KEY COURSES

Aerospace:	Control Theory, Aircraft design, Space Flight Mechanics, Engineering Design Optimization, Fluid Mechanics, Solid Mechanics, Thermodynamic and Propulsion, Structures
Others:	Data structures and algorithms, Basics of Visual Communication, Organizational Behavior, Numerical Analysis Philosophy, Computer Programing and designing