



Mookund Sureka
Electrical Engineering
Indian Institute of Technology Bombay
Specialization: Microelectronics

15D070053
UG Third Year (Dual Degree)
Male
DOB: 21/06/1997

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2018	8.52
Intermediate/+2	CBSE	Doon Public School	2015	92.60
Matriculation	CBSE	DAV Public School	2013	10.00

SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 368** in *JEE Advanced 2015* out of **0.15 Million** candidates
- Pursuing a **Minor** degree in **Computer Science & Engineering** department, IIT Bombay
- Achieved a **National Rank of 5** in West Bengal Joint Entrance Exam 2015 out of **0.2 Million** candidates
- Scored a **99.7** percentile in JEE Mains 2015 out of **1.5 Million** candidates
- Received **DAV** Talent Search Scholarship for securing overall **9th position** among the contestants
- Awarded **Certificate of Merit** for being among the **top 1 percent** candidates enrolled in the state of Rajasthan in Astronomy Olympiad conducted by Indian Association of Physics Teachers

PROJECTS UNDERTAKEN

Audio Based Bird Species Identification [May'17–Present]

Guide: Prof. Preeti Rao, Department of Electrical Engineering, IIT Bombay

- Achieved **85 percent** mean accuracy in classification of 6 bird species upon testing multiple datasets
- Improved segmentation of the bird call by median filtering method and Harma method
- Applied the **random forest classifier algorithm** by extracting bird's characteristic features such as **spectral roll off, centroid, bandwidth, flux** from the audio datasets using MATLAB

System for allocating CSR funds to NGO [Jan'17–Apr'17]

Guide: Prof. Ganesh Ramakrishnan, Data Structures and Algorithm course Project

- Designed an algorithm for centralizing **CSR fund distribution** to NGOs based on mutual compatibilities
- Used **Balanced AVL trees** for the CSR data structure & used preferential matching with the incoming NGO
- Improved the **Binary search trees algorithm** to adjust multiple entries with similar requirements

Semi Virtual Air Hockey Game [May'16 – Jul'16]

Institute Summer Technical Project

- Designed the gaming interface for air hockey using **Pygame**, a gaming module in Python
- Employed **Blob Detection** and **Contour Tracing** Image Processing features in **OpenCV** for tracing mallet

Resistive Random Access Memory [Oct'16 –Nov'16]

Guide: Prof. Bhaskaran Muralidharan, Introduction to Microelectronics Course Project

- Analyzed different unique properties and design models of RRAM at a microscopic level
- Presented a term paper analyzing different bipolar switching mechanisms in semiconducting materials
- Investigated the current scenario, advancement and the challenges RRAM industry needs to overcome

POSITIONS OF RESPONSIBILITY

Manager| Tinkerers' Lab [Apr'17–Present]

Institute Technical Council, IIT Bombay

- Mentored other IITs and engineering colleges such as **IIT Gandhinagar, IIT KGP, IIT Hyderabad**, Atharva College in drafting the proposal for setting up similar Tinkering Laboratories in their respective Institute
- Handling a budget of nearly \$100,000 for the fiscal year 2017-18 for organizing events and to support the utilities, maintenance and three fold expansion of the facility
- Responsible for coordination with **Dean Alumni & Corporate Relations** and **IIT Bombay Alumni Association** to channelize all alumni and industrial support for technical activities in IIT Bombay
- Part of the **14 member core group** responsible for developing and promoting technical activities and projects **throughout the Institute** by organizing events, workshops and inviting companies

IIT Bombay Racing

[Jul'16 – Feb'17]

Junior Design Engineer

- IITB Racing is a cross-functional team of 70 students which design, fabricate and assemble a Formula one style racing vehicle for participation in the prestigious **Formula Student UK** event
- Worked under **Battery and BMS** subsystem, which is responsible for maintaining uniform voltage across all the cells, monitoring current and temperature data
- Hands on experience with various sensors such as **yaw, RPM, throttle, temperature**

Marketing Coordinator | Techfest, IIT Bombay

[Apr'16 – Dec'16]

Asia's largest Science and Technology Festival | 165,000 Footfall

- Executed brand integration strategies for multinational companies targeting the youth sector
- Managed sponsorship deals worth **INR 1 Million** by producing deliverables during the festival

Technical Secretary | Hostel VI Technical Council

[Aug'16 – Apr'17]

- Organized workshops, competitions and group discussions for more than **400 students**
- Led a team of 5 people to secure **second position** in **PhysX** and **Rube Goldberg** General Championship

COMPUTER PROFICIENCY

- **Programming languages:** C++, Latex, Python, VHDL
- **Software Packages:** SolidWorks, EAGLE, Arduino, MATLAB, ModelSim, Quartus
- **Embedded Systems:** AVR, Arduino

RELEVANT COURSES

Electrical Core	Microprocessors*, Electromagnetic Waves*, Foundation of VLSI CAD, Analog & Digital Circuits, Signals and systems, Signals and systems, Electronic Devices, Power electronics, Communication Systems*, Network Theory
Mathematics	Calculus, Differential equation, Linear algebra, Complex Analysis
Others	Data Structures and Algorithms, Data Analysis and Interpretation, Economics, Probability and Random Processes, Introduction to language, Quantum Mechanics

EXTRA CURRICULAR ACTIVITIES

Technical Achievements

- **Stood first** in the freshmen remote controlled bot making competition
- Mentored more than **10** freshmen teams of 4 for the **XLR8** competition organized by the Electronics Club
- Contributed in the organization of a workshop **at IIT Goa** with the help of IITB Alumni for promoting tech culture there, attended by more than 60 percent of the total students

Social Campaigns

- Participated in various social activities and events as a junior member, **Leo** of honorary **Lions Club**
- Volunteered for tree plantation drive organized by the Lions club to create awareness among people
- Campaigned Social Initiative by PanIndia, **Cured** on diabetes, targeting reaching **1 Million** people

Miscellaneous

- Pursuing an online course on **machine learning**, offered by Stanford University
- Part of the **winning team** of freshmen dance competition, organized by the Institute Cultural Council
- Visited more than 15 states, comfortable working with and in different cultures
- Participated in **Sophomore Dance League** competition organized by the dance club

**To be completed by Nov'17*