



Pranav Kulkarni
Electrical Engineering
Indian Institute of Technology Bombay

15D070017
UG Second Year
Male
DOB: 02/12/1997

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2017	9.56
Intermediate/+2	HSC Board	Rajiv Gandhi Academy	2015	95.85
Matriculation	CBSE Board	Jnana Prabodhini Prashala	2013	10.00

SCHOLASTIC ACHIEVEMENTS

- Currently **Ranked 4th** amongst **135** students of Electrical Engineering department 2017
- Pursuing a minor degree in **Computer Science** Present
- Switched programme from Elec *dual degree to B.Tech* based on excellent academic performance 2016
- Awarded with **AP grade** (~top 1%) in course **Data Analysis and Interpretation** 2016
- Secured **All India Rank of 456** in **JEE advanced** among **150,000** candidates 2015
- Secured **All India Rank 68** in **JEE mains** (B.Tech) exam among **1.5 million** candidates 2015
- Participated in the National Science camp **Vigyan Jyoti Shibir - VIJYOSHI** for KVPY awardees organised at Indian Institute of Science - *IISC Bangalore, India* Nov 2014
- Awarded with Certificate of Merit for being in **statewise top 1%** students in *National Standard Examination in Physics - NSEP* 2014

SHOLARSHIP AND AWARDS

- Awarded with *Kishore Vaigyanik Protsahan Yojana - KVPY* (SA stream) scholarship with **rank 162** among over *50,000 students* 2013-14
- Received scholarship for *National Talent Search Examination - NTSE* conducted by NCERT awarded to *1000 students* among *5,000,000* candidates 2013
- Received scholarship for *Maharashtra Talent Search Examination - MTSE* with state **rank 16** among around *100,000* participants 2011
- Received **Math Excellence- Pradnya scholarship** and was among **top 11** students from Maharashtra 2010

PROJECTS

Touchless Fingerprint App *Texas Instruments Digital Signal Processing Lab, IITB*
Prof. Vikram M. Gadre Nov '16 – Present

- Researched about fingerprint **recognition, template extraction** and **matching** techniques
- Building an Android app that can **enroll, verify and identify** fingerprint from device camera or the fingerprint device attached to mobile.
- Building a **centralised database and matching system** on a server accessible by multiple devices

Carrom Playing Bot *Electronics Club, IITB*
ITSP - Institute Technical Summer project May '16 – July '16

- Built a semi-autonomous robot which analyses position of single coin placed on carrom board, decides and plays the easiest shot
- Devised ingenious code for **image processing in python using OpenCV**
- Controlled stepper motors by **Raspberry-pi** for positioning and DC motor for hitting the striker

Digital Electronics project *Wadhwani Electronics Lab - WEL, IITB*
Prof. M.B.Patil - EE112 Course March '16 - April '16

- Digital Pulse Width Modulation - **PWM generation and speed control of DC motor**
- Devised and debugged a *digital circuit for generating PWM* using with variable duty cycle
- *Controlled Speed of DC motor* using PWM through transistors in **Darlington mode**

Summer Programme *Inter-University Centre for Astronomy and Astrophysics - IUCAA, Pune*
Dr. Jayant Narlikar May '12

- Devised method to calculate **latitude using the angle of rotation of Foucault's pendulum**
- Demonstrated mathematical fallacies and conceptualised notions on space-time

Google Science Fair - GSF project

JPP, Pune

Mr. Nachiket Nitsure

June '11 - April '12

- Studied about *flow of granular material, crowd dynamics, crowd simulation & self organization theory* for the project **Crowd Management by Simulation**
- *Modelled crowd by pearls passing through holes, hypothesised and studied the dependence of locking of pearls and time to pass on hole parameters such as shape, size and partitions*
- Possible *applications in traffic management, industries and sewage plants*

Futurology project

JPP, Pune

Dr. Mukulika Thatte

June '12 - April '13

- *Led a team of 4 for futuristic analysis of Grahak Peth - a medium scale shopping mall in Pune*
- *Analysed the trends of gross profit, expenditures, consumer growth of previous 10 years, studied the variations and predicted the figures for upcoming years*

POSITIONS OF RESPONSIBILITY

Events Co-Ordinator, **Techfest** 2016-17 IIT Bombay

Asia's largest science and technology festival

- Part of 12 member team; leading about 10 organisers for the **execution of Techfest Exhibitions** involving tech exhibits from all over the world
- Assisted in the **PAN India Diabetes awareness Campaign CURED** aiming a Guinness World Record
- Single-handedly managed a **3 day workshop on Data Analysis** during the festival

KEY COURSES

- **Electrical Engineering** - Signals and Systems[#], Analog Circuits[#], Electrical machines and Power Electronics[#], Digital Systems[#], Network Theory, Data Analysis and Interpretation, Electronic Devices, Introduction to Electrical Systems, Introduction to Electronic Circuits
 - **CS & Mathematics** - Data Structures and Algorithms[#], Computer Networks, Computer Programming and Utilisation, Calculus, Linear Algebra, Ordinary and Partial Differential Equations, Complex Analysis
 - **Miscellaneous** - Economics, Environmental Studies, Electricity and Magnetism, Quantum Physics, Engineering Drawing, Chemistry, Biology
- (# to be completed by April '17)

TECHNICAL SKILLS

- **Programming languages** – C, C++, Java, Python, Android Studio, MATLAB, HTML, R Studio
- **Software packages** – OpenCV, Eagle, ngSpice, git, AutoCAD, SolidWorks, Latex
- **Micro-controller boards** – Arduino, Raspberry-Pi

EXTRA CURRICULAR

Technical Activities

- *2nd position in Science Quiz arranged by IUCAA among around 300 school teams* Feb '12
- Completed **Line Follower Bot** with *3 out of 4 checkpoints* under Robotics Club, IITB Jan '16
- Successfully made and flew a **Remote Controlled Plane** under Aerodynamics Club, IITB Nov '15
- Studied about energy conservation and alternative energy generation methods (like pellets from hotel waste, oil from MWS) being a part of special interest group led by Mr. Santosh Gondhalekar '12- '13

Sports

- Ranked **second** in district level **chess** tournament conducted by Pune District Chess Association. '05
- Won **gold medal twice** in Chess General Championship for hostel two, IITB '16
- Represented **kho-kho** team for district level competition, attended *camp of inter IIT Team* selection '15

Other Skills

- Qualified *Prarambhik and Praveshika* exams of **classical music** conducted by Akhil Bharatiya Gandharva Mahavidyalaya, Mumbai '08, '09
- Qualified 5 exams of **Sanskrit** with distinction conducted by Tilak Maharashtra Vidyapeeth, Pune '07-'11
- Ranked 2nd in life essential skills enrichment program involving 14 skills like **speed reading, note making, marketing, elocution, recitation** reasoning skills, hand weaving, pottery conducted by JPP '09-'10
- Completed training for **Resuscitation – first aid** from Astitva Lifesaving Training & H.R.S. India pvt. Ltd. '09