



Aman Dixit  
Electrical Engineering  
Indian Institute of Technology Bombay  
Specialization: Communication & Signal Processing

14D070053  
UG Second Year  
Male  
DOB: 01/10/1996

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2016	8.97
Intermediate/+2	CBSE	Saint Johns Senior Secondary School, Kota	2014	96.80
Matriculation	ICSE	M.G.M. Higher Secondary School, Jabalpur	2012	95.00

#### SCHOLASTIC ACHIEVEMENTS

- Secured an **AIR 393** in **JEE-ADVANCED** among **1.28 lakhs** aspirants [2014]
- Secured an **AIR 105** and **State Rank 5** in Rajasthan state in **JEE-MAIN** [2014]
- Selected in **Special Class Railway Apprentice (SCRA)** with **AIR 7** among **2.8 lakhs** students [2014]
- Achieved a score of **383** out of **450** in **BITSAT** [2014]
- Received a **Letter of Appreciation** from **HRD Ministry** for stellar performance in 12<sup>th</sup> Boards CBSE
- Received a **Merit Certificate in Physics** for being in top **1%** in 12<sup>th</sup> Boards CBSE [2014]
- Scored a **perfect 10** in Computer Programming, Differential Equations, Quantum Physics
- Pursuing **Minor** in **Computer Science and Engineering** [2015]

#### PROJECTS

##### Technohome-Home Automation

[Apr'15-May'15]

*Institute Technical Summer Project-IIT Bombay*

- Created a three module remote interface to control basic home appliances
- Voice Commands and Bluetooth:** - Developed an **Android Application** implementing the use of **Voice Commands** and buttons to send commands to **Arduino** operated switchboard via **Bluetooth**
- Web Server:**-Designed a **web page** on a local web server that connects with Arduino using Ethernet Shield. The webpage also had a **feedback** feature which updates the state of devices
- Toggle Buttons:**-Appliances could also be controlled by the toggle buttons, installed in the circuit
- Restructured the circuit by replacing **HC-05** by **BLE Bluetooth module 4.0** and implemented **Power Reduction Resistor (PRR)** which reduced the energy consumption by about **40%**
- Installed **1N4007 Diode** to safeguarded the circuit from reverse currents

##### SPYBOT

[Feb'15-Mar'15]

*Course Project CS 101- Computer programming and Utilisation under Professor Kavi Arya*

- Configured **FIREBIRD V** to wirelessly manoeuvre the bot on an unknown track which kept record of distance travelled, displacement and its current co-ordinates
- Installed a **Wireless Camera**, **ZigBee** module and coded the microprocessor **Atmega-2560** using **Atmel Studio** to provide live feed to the user and to wirelessly send commands to bot
- Modulated the **Pulse Width Modulation (PWM)** of the motor which decreased the power consumption and enhanced efficiency and accuracy of the bot by about **75%**
- Incorporated the **ARA (Auto Return Algorithm)** which recalls the bot back to its original position by traversing on shortest path, thus saving about **50%** time and energy
- Implemented **BCAS (Bot Collision Avoidance System)** which prevents bot from physical impact while returning to the original position and also by overriding user's commands

#### OTHER TECHNICAL ACITIVITIES

- RC Plane:** - Created a **RC Plane** under **Aeromodelling Club** IIT-Bombay which secured a position in top 10 in RC Plane event held by **STAB (Student's Technical Activities Body)**
- Line Follower:** - Designed an **Arduino** powered **Line Follower** bot under **Robotics Club** IIT-Bombay
- Pinball:** - Designed a **Pinball** game under **WnCC** IIT- B using MIT's GUI based software, **Scratch**
- Animation:** - Created a short **3D-animated film** using a software called **Muvizu**

---

### TECHNICAL SKILLS

---

- **Programming Languages:** - C, C++, JAVA, Python, Embedded C, HTML5
- **Software Packages:** - Android Studio, Eclipse, Arduino, NgSpice, SolidWorks, AutoCAD, Adobe Premier pro, Atmel Studio, Processing, Muvizu, X-CTU

---

### POSITIONS OF RESPONSIBILITY

---

---

#### Coordinator- Competitions, TechFest IIT-Bombay

[Apr'15-Present]

- Invited technical representatives of foreign universities to be appearing and competing in **TechFest**
- Supervised a close event, **Magneto** in which over **50** teams participated in **TechFest-2015**

---

#### Organiser-Mood Indigo IIT-Bombay

[Sep'14-Jan'15]

- Managed the accommodation of the celebrities and the judges invited in the **Mood Indigo**
- Collaborated with others to manage the event, **Vogue** in which **50+** models participated

---

### EXTRA CURRICULAR ACTIVITIES

TECHNICAL	<ul style="list-style-type: none"><li>• Developed many small science projects in school such as Smoke Bomb, Hydrogen Fuel, DC Motor, Artificial Snow, Answering Machine and Gluep</li><li>• Cleared <b>National Science Talent Search Examination (NSTSE)</b> of Unified Council ['07]</li></ul>
SOCIAL SERVICE	<ul style="list-style-type: none"><li>• Assisted and taught underprivileged students of renowned NGOs such as <b>Aasha, Vidya</b> under part of <b>National Social Service Educational Outreach (NSS-EO) IIT-B</b></li><li>• Heading and managing the collection drive of non-profitable campaign <b>Do Your Bit India</b> which is brainchild of amateur Indian youngsters</li><li>• Orchestrating the campaign of <b>Do Your Bit India</b> to help NGOs with very little resources to gain publicity through social media</li><li>• Part of <b>USD Consortium</b> of skill development training and women empowerment</li></ul>
CULTURAL	<ul style="list-style-type: none"><li>• Cleared <b>4<sup>th</sup> Grade Tabla</b> Exam credited by Prayag Sangeet Samiti, Allahabad ['08]</li><li>• Secured <b>4<sup>th</sup></b> place in Ad-making competition among <b>50+</b> entries in <b>Freshiezza</b> ['14]</li></ul>
QUIZZING	<ul style="list-style-type: none"><li>• Represented school for 3 consecutive years in Limca Book of Records Quiz ['09-'11]</li></ul>
ADDITIONAL	<ul style="list-style-type: none"><li>• Pursued courses such as: Accounting and Management, Android App Development</li></ul>
MISCELLANEOUS	<ul style="list-style-type: none"><li>• Captain of school debating team</li><li>• <b>Interests:</b> Adventure sports enthusiast and avid Manchester United Fan for 8 years</li></ul>

---

### COURSES UNDERTAKEN

DEPARTMENT COURSES	Electronic Devices and Circuits, Network Theory*, Electronic Devices Lab*, Electronics*, Electrical Systems*
PHYSICS AND MATHEMATICS	Data Analysis and Interpretation*, Quantum Physics and Application, Electricity and Magnetism, Calculus, Linear Algebra, Differential Equations I & II*, Complex Analysis
OTHER COURSES	Computer Networks (Minor), Computer Programming and Utilization, Android Application Development, Management and Accounting, Economics*

(\* Courses to be completed by Nov'15)