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Aditya Mukherjee

EDUCATION

Institute of Engineering & Management, Kolkata – Bachelor of Technology in Electronics and Communication Engineering | **UG**

AUGUST 2016 – JULY 2020

Average GPA (Till 6th semester): 8.1/10

Bharatiya Vidya Bhavan, Kolkata – All India Senior School Certificate Examination (AISSCE) | **Class 12**

April 2014 – MARCH 2016

Marks Obtained : 93.8%

Bharatiya Vidya Bhavan, Kolkata – All India Secondary School Examination (AISSE) | **Class 10**

April 2003 – MARCH 2014

GPA : 10/10

SKILLS

Electronics : Embedded electronics, RF & microwave devices, Mixed signal & high speed circuit design, Antenna Design, Software Defined Radio, Power electronics

Design Software : Altium Designer, Fusion 360, Eagle CAD, Xilinx ISE

Simulation Software : MATLAB, Spice, Origin, GNU Radio

Hardware Skills : PCB fabrication and assembly, Handheld and reflow soldering (SMD), Antenna fabrication

Computational : MS Office, Adobe Suite

Programming : C, C++, HTML

Extracurricular : Football, Athletics, Cricket, Table tennis, Photography, Videography

Languages : Bengali, Hindi, English

CHARACTERISTIC TRAITS

Innovative | Leadership Skills | Intuitive & Creative | Attentive to detail

HOBBIES

Electronics hobbyist since 9, has a decent [home electronics lab](#)

Sports & athletics

Astro, landscape & street photography & occasional videography

WORK EXPERIENCE

Rebaca Technologies, Kolkata – *Electronics Design Intern*

NOVEMBER 2019 – PRESENT (From home)

- **SP6T Wideband RF Switch (5 – 3000 MHz) for Bosch's keyless car project** ([Link](#))
 - Mixed signal circuit design & fabrication
 - RF parameter measurement
 - Testing the hardware with ASUS Tinkerboard

Achilles Resolute Private Limited, Kolkata – *Lead Electronics Design Intern*

MARCH 2019 – PRESENT

- **Wearable security guard monitoring system**
 - Prototype hardware design, fabrication and programming
 - Mixed signal circuit and PCB design and assembly for final product

ONGC Infocom, Kolkata – *Trainee*

JANUARY 2019 – FEBRUARY 2019

- **Training program on network systems and communication methods used in ONGC**

South Eastern Railway, Kolkata – *Trainee*

DECEMBER 2018 – JANUARY 2019

- **Vocational training on railway communication system**
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RESEARCH & PROJECTS

Advanced Material Research Lab, IEM Kolkata – *UG Researcher*

([Link](#))

SEPTEMBER 2017 – PRESENT

- Property studies of catalytic substrate for graphene growth (**Final Year Project**) ([Project Link](#))
- Precision Thermocouple Amplifier for embedded systems ([Project Link](#))
- Micro spin coater for coating polymer film on copper substrate ([Project Link](#))
- High voltage and current sweep generator for substrate biasing in a sputtering setup

Antenna Lab, IEM Kolkata – *UG Researcher* | **Co-Founder**

APRIL 2018 – PRESENT

- R&D work on a high altitude weather balloon
- Developed complete hardware package for a Raspberry Pi powered cube-sat or weather balloon
- R&D work on an affordable radio telescope design using software defined radio (SDR)

Innovation Lab, IEM Kolkata – *UG Researcher* | **Co-Founder**

DECEMBER 2016 – PRESENT

- Adaptive home automation system with occupancy sensing implemented on 32 bit IOT hardware ([Project Link](#))
- Simulation and small scale implementation of a smart traffic management and re-routing system

Personal Projects, Home Electronics Lab

- IOT device for controlling appliances with voice commands over existing Amazon Alexa devices [\(Project Link\)](#)
 - Solder reflow oven using old OTG oven
 - Solar powered outdoor lighting system with automatic main gate and garage lights
 - 137 MHz NOAA satellite automatic picture transmission (APT) receiver using V-dipole and RTL-SDR connected to a computer.
 - 2.45 GHz BiQuad antenna
 - 2.45 GHz single sided PCB Yagi-Uda antenna
 - LT6018 breakout board (DIP8) [\(Project Link\)](#)
 - RFM69HCW breakout board [\(Project Link\)](#)
 - FM24CL16B-G (16KB FRAM IC) eagle library [\(Project Link\)](#)
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PUBLICATIONS

- Microwave Heating Study of Dielectric Material Placed at the Injection Port of an E-Plane Bend | International Conference on Electronics, Materials Engineering and Nano-Technology at IEM, Kolkata | 2019
DOI: [10.1109/IFEMNTech48150.2019.8981091](https://doi.org/10.1109/IFEMNTech48150.2019.8981091)
 - Precision Thermocouple Amplifier for substrate temperature monitoring in an ECR-PE nano-film deposition system | International Conference on Electronics, Materials Engineering and Nano-Technology at IEM, Kolkata | 2018
DOI: [10.1109/IFEMNTECH.2018.8465349](https://doi.org/10.1109/IFEMNTECH.2018.8465349)
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COURSE ELECTIVES

Computer Architecture, Antenna Theory, Instrumentation, RF & Microwave, Radar, Power Electronics, Satellite Communication & Remote Sensing, Material Science & Engineering

ACHIEVEMENTS & CERTIFICATIONS

- Awarded the Smt. Maya Chakrabarti Memorial **Gold Medal** for best student contribution
 - TOEFL iBT score obtained: 114/120
 - IBM Blockchain Foundation for Developers by IBM on Coursera, April 2019 [\(Certificate\)](#)
 - Presenter at International Conference on Electronics, Materials Engineering and Nano-Technology at IEM, Kolkata for 2018 and 2019
 - Winner of Innovacion 2017, innovative product design contest at IEM, Kolkata
 - Finalist of inter college physics quiz “Sci-Phy” on August 23, 2016, organised by Ramkrishna Mission Residential College, Narendrapur
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OTHER HIGHLIGHTS

- Delivered lectures on mixed signal circuit designs, IEEE CAS Society, Nov 2018
- Conducted workshops on IOT and mixed signal designs
- Noteworthy performance in practical labs (9.8/10)
- Projects on electronics, IOT, chemistry and mechanics in school
- Participated in and won a number of inter-school/college tournaments & athletic events