

## EDUCATION AND TRAINING

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**Bachelor of Technology in Electrical and Electronics Engineering**, Guru Tegh Bahadur Institute of Technology (affiliated to Guru Gobind Singh Indraprastha University) (EQF Level 6) 2014-2018-

**All India Senior School Certificate Examination**, Delhi Public School, R. K. Puram, Mathematics, Physics, Chemistry, Computer Science, English (EQF level 4) 2010-2014

**Primer on Semiconductor Fundamentals (MOOC) (Audit)**, Purdue University (EdX) February 2019

**Nanotechnology for Health (MOOC)**, University of Twente (FutureLearn) June 2019

**Device Characterization with the Keithley 4200-SCS (MOOC) (Audit)**, Keithley Instruments, Inc (Nanohub) December 2017

**Micro & Nano fabrication (MEMS) (MOOC)**, École Polytechnique Fédérale de Lausanne (EdX) February 2017

**Circuits and Electronics 1: Basic Circuit Analysis (MOOC)**, Massachusetts Institute of Technology (EdX) November 2018

**The Arduino Platform & C Programming (MOOC)**, University of California, Irvine (Coursera) September 2016

## WORK EXPERIENCE

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**Research intern** - Centre for Applied Research in Electronics, Indian Institute of Technology, Delhi December 2017 - August 2019

Characterized a Bioimpedance sensor for bacteria detection

Characterized a BioFET sensor for bacteria detection

Fabricated and characterized protein and polysaccharide-based resistive-switching memory devices on a flexible substrate

**Research intern** - Centre for Applied Research in Electronics, Indian Institute of Technology, Delhi June 2017 - August 2017

Fabricated and characterized a protein-based resistive-switching memory device on a flexible substrate

**Member, Electronics Club GTBIT** - IEEE GTBIT August 2016 - December 2017

Conducted an academic-industry workshop on Renewable Energy resources

Promoted and conducted a two day hardware hackathon

**Member, IEEE** - IEEE GTBIT August 2015 - August 2016

Taught a Special Interest Group on basics of C

Conducted a quiz titled "TechQuIEEEZ" on IEEE Day 2015

Conducted mock Group Discussions and Personal Interviews on IEEE Day 2015

**Promotions Team** - Leaders for Tomorrow March 2016

Promoted the event "Date with Development" for a non-profit organization on social media

**Content Developer** - Project Wave: NIIT June 2007

Led by Prof Sugata Mitra (TED Prize Winner, 2013) Created learning and awareness materials for a self-organised learning platform

## PERSONAL SKILLS

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Event Management

Social media campaigning

Mother tongues: Hindi, Punjabi

Foreign languages: English (TOEFL 109), Basic Dutch

## JOB RELATED SKILLS

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**Electrochemical Impedance Spectroscopy** using BioLogic SP-150 Potentiostat

**Thermal evaporation** using a modified Varian 3117 evaporator

**Semiconductor characterization** using Keithley 4200 and 4200A parameter analyzers.

Experience with Keithley 2636B, Keithley 2400 SMUs

**Mask designing** using ProjeCAD and IntelliCAD

**Data analysis and plotting** using Originlab 2017

**Infrared Spectrum analysis** using Thermo Scientific Nicolet iN10MX infrared imaging microscope

**UV-Vis Spectrum analysis** using Eppendorf Biospectrometer

**Silver Nanoparticle Synthesis** using chemical synthesis

**SEM image measurements** using ImageJ

**Basic Programming** using C++

## PUBLICATIONS AND CONFERENCES

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*Vancomycin functionalized WO<sub>3</sub> thin film-based impedance sensor for efficient capture and highly selective detection of Gram-positive bacteria*

Biosensors and Bioelectronics 136:23-30(2019)

[Impact factor 9.518]

<https://doi.org/10.1016/j.bios.2019.04.029>

*MoS<sub>2</sub>/TiO<sub>2</sub> Hybrid Nanostructure-based Field Effect Transistor for Highly Sensitive, Selective, and Rapid Detection of Gram-positive Bacteria*

Under review

*Reconstituted Fe-Azurin based device for resistive memory switching*

Submitted extended abstract to the International Workshop on the Physics of Semiconductor Devices, 2017

## AWARDS AND RECOGNITION

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**GAIT Certified IT Professional – Bronze** - Global Assessment of Information Technology March 2017

A Bronze level GAIT Certified IT Professional has demonstrated basic comprehension and knowledge needed for an entry level position.

**Second Place in Tesla Turbulence** -IEEE GTBIT March 2016

Quiz on hardware, networking, electronics, logic, mounting and assembly

**Certificate of Appreciation** - Open magazine 2015

Encouraging citizens to plant more trees

**Second Green Badge for academic excellence for two consecutive years** - Delhi Public School, R.K. Puram 2010-2012

**Scholar Badge for academic excellence for three consecutive years** - Delhi Public School, R.K. Puram 2006-2009