

Abhishek Gupta

SENIOR UNDERGRADUATE · DEPARTMENT OF CHEMISTRY

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Academic Qualification

Year	Degree	Institute	CPI/ %
2015 - 2019*	B.S.	Indian Institute Of Technology, Kanpur	7.6' / 10.0
2015	CBSE	Jain Bharti Mrigavati Vidyalaya	92.2%
2013	CBSE	Jain Bharti Mrigavati Vidyalaya	9.6/ 10

* Expected, 'till 6th Semester

Honors & Awards

2017	2nd runners-up , Techkriti Innovation Challenge in Techkriti '17 (annual international, technological festival).	IIT Kanpur
2016	Silver Medal , Hardware Competition in Inter IIT Tech Meet (annual technological competition).	IIT Mandi
2016	1st Place , Techkriti Innovation Challenge in Techkriti '16 (technical international annual fest).	IIT Kanpur
2016	Best Summer Project , Project HUMANOID ROBOT (HURO), built a wheeled humanoid under Robotics Club.	IIT Kanpur
2016	Special Mention , Windows Game Project in Summers '16 under Science and Technology Council.	IIT Kanpur
2015	Recipient , INSPIRE Scholarship by Department of Science and Technology for attraction of talent to Science.	India
2015	Top 4% , Joint Entrance Exam (All India Engineering Entrance Examination) among 150,000 candidates.	India
2014	Rank 1 , Class topper in 8th Science Olympiad Foundation (SOF), International Mathematics Olympiad.	New Delhi
2013	2nd Position , One Act Play at zonal level organized by Delhi School Sports and Activities Board.	New Delhi

Internships

Insect Taste System

RESEARCH PROJECT, PROF. FREDERIC MARION-POLL

CNRS, France

May 2018 - July 2018

- Understanding how bitterness related to toxicity in insects by conducting behavioural experiments like multiCAFE.
- Built a tool 'DrosoTrack' to detect and track the feeding activities of Drosophila Melanogaster

Projects

Insect Olfaction

RESEARCH PROJECT, PROF. NITIN GUPTA

IIT Kanpur

May 2017 - Present

- Understanding brain mechanisms that govern how specific smells become attractive or repulsive to mosquitoes.
- Collecting and analyzing some of the precious data on behavior, single sensillum recording (S.S.R.) and electroantennography.

DNA Damage Response of Mycobacterium Tuberculosis

RESEARCH PROJECT, PROF. SARAVANAN MATHESHWARAN

IIT Kanpur

May 2017 - July 2017

- Worked on understanding the SOS response which activates in response to the damage conditions in M. Tuberculosis.
- Primer designing, Polymerase Chain Reaction (PCR), Transformation, Plasmid Isolation, Digestion, Ligation were performed.

Phage Therapy against Staphylococcus aureus

RESEARCH PROJECT, PROF. SARAVANAN MATHESHWARAN

IIT Kanpur

Dec. 2016 - May 2017

- Learned basic lab techniques (like: Protein purification, Gel Electrophoresis, Culture formation, Reagents preparation etc.).
- Collected soil and water samples from the Ganges in Bithoor and worked on isolation.

Automatic Lift Arm Sorter

COURSE PROJECT, PROF. SHASHANK SHEKHAR

IIT Kanpur

Jan. 2017 - May 2017

- Implemented a model that was able to sort iron blocks with different size.

Humanoid Robot (HURO)

ROBOTICS CLUB PROJECT, SCIENCE AND TECHNOLOGY COUNCIL

IIT Kanpur

Sep. 2015 - May 2017

- Designed various improved models of Humanoid and simulated them in Virtual Experimentation Platform (V-REP) .
- Used Pywikibot library, Speech Recognition, Natural Language Processing and Wolfram Alpha API for Chatbot implementation.

Sign Language and Communication (SL-COM)

HARDWARE PROJECT, ROBOTICS CLUB PROJECT

IIT Kanpur

Feb. 2016 - Mar. 2017

- Project aimed to lower the barrier of communication for dumb and deaf people by developing a portable electronic device.
- Assembled wearable flex sensor gloves with bluetooth connectivity to a chat application.

Transportation Mechanism

COURSE PROJECT, PROF. NEERAJ SINHA

- Manufactured the model that stack the transported work pieces by taking advantage of gravity.

IIT Kanpur

Aug. 2017 - Nov. 2017

Air War Window's Game

PROGRAMMING CLUB PROJECT, SCIENCE AND TECHNOLOGY COUNCIL

- An air combat shooter game with stunning graphics alongside great audio effects built on Unity3D Engine.

IIT Kanpur

May 2016 - July 2016

Position of Responsibility

Dean of Undergraduate Committee Student Nominee

IIT Kanpur

ACADEMIC & RESEARCH CELL

2017 - 2018

- Elected as one of the two student nominees from the entire department for the Department Undergraduate Committee (DUGC), consisting of professors from the Department of Chemistry.
- Played a pivotal role in establishing policies for Undergraduate courses in department and taking decisions in critical matters like course re-structuring, changes in template, student appeals, criteria etc.

Secretary

IIT Kanpur

ROBOTICS CLUB

Aug. 2016 - Apr. 2017

- Organized Takneek'16 competitions, designed the arena of problem statements.
- Mentor of Arduino Based LED Table (ARBALT) team in Winter Camp 16, helped in designing the circuit using Multiplexer (MUX).

Senior Executive of Web Development

IIT Kanpur

TECHKRITI 17

Oct. 2016 - Mar. 2017

- Responsible for developing the sub-pages and editing main and beta version of Techkriti web page.
- Worked on debugging JavaScript, HTML, and Cascading Style Sheets (CSS) related issues on live website.

Senior Member

IIT Kanpur

TEAM HURO

Aug. 2016 - Apr. 2017

- Assigned small projects and conducted workshops and lectures for new members of the team.
- Mentor of Battery Management System(BMS) and Chat-Bot sub-teams, introduced the approach to proceed for our goal.

Skills

Programming:	C, C++, Python, Matlab, R, Lua, HTML, CSS.
Operating Systems:	Gentoo Linux, Ubuntu, Kali.
Tools & Technologies:	Auto CAD Inventor, Auto CAD Fusion, Altium, V-REP, Arduino, \LaTeX .
Laboratory Skills:	PCR, Restriction Digestion, Cloning, Transformation, Gel Electrophoresis.
Language Proficiency:	English (written and spoken), Hindi (native), German (elementary proficiency).

Relevant Coursework

Computing:	Fundamentals of Computing, Computational Cognitive Science, Machine Learning*.
Mathematics:	Linear Algebra & Differential Equations, Partial Differential Equations, Complex Analysis.
Biology:	Bioinformatics & Computational Biology, Neurobiology, Molecular Cell Biology.
Chemistry:	Introduction to Bio-nanotechnology, Statistical Mechanics, Bio-systems.
Others:	Introduction to Electronics, Microeconomics, Soft Skills & Personality Development.

(* online courses with certification)

Miscellaneous/ Extra-Curricular

- Participated in **EXL EQ'18**, Analytics Competition organized by EXL service (an operations management and analytics firm)
- Participated in **Soccon '16 (&17)**, SOcial CONquest in Techkriti (annual international, technological festival).
- Participate in **Takneek '16 (&17)** (Intra-IITK Science & Technology Championship), built controller using an Inertial Measurement Unit.
- Participated in **code.fun.do 2017** (developing competition organized by Microsoft), built a chat interface on Node.js platform.
- Participated in Wall Climbing in Fresher's **Inferno'15** (Intra-IITK Sports Championship).
- Participated in **Spectrum'15** (Films & Media Council festival cum Inter-pool competition).
- Volunteer in Hospitality Cell, **Udghosh'15** (annual sports meet of IIT Kanpur).
- Volunteer in Ritambhara (fashion carnival), **Antaragni'15** (annual cultural festival of IIT Kanpur).
- Successfully completed Machine Learning (Coursera), Ethical Hacking (Udemy) online courses.