



# VIKASH MEGHWAL

DUAL DEGREE : Bachelors-Masters in CHM

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## EDUCATIONAL QUALIFICATIONS

Year	Degree	Institution	CGPA/%
July'19 – July'24	Dual-BS-MS, CHM	IIT Kanpur	8.20/10.0
2018	CBSE – XII	LMPS, Ajmer	71.80%
2016	JKBOSE – X	BPHS, Jammu	82.80%

## WORK EXPERIENCE

### Imperium DreamWorks

Web-Dev

SUMMER INTERN

May 2022 - Aug 2022

- Implemented & crafted dynamic and responsive user interfaces using **HTML**, **CSS**, and **React** for seamless and engaging web experiences.
- Used **TypeScript** for robust backend development and Routing system in that Webpage.

### IIT Kanpur

Under Prof. Pratik Sen

SURGE INTERN

May 2023 - July 2023

- Worked on Elucidation of the Structure and Dynamics of Synergistic Mixed Solvent Systems.
- Conducted in-depth investigations using **<sup>1</sup>H NMR** and **absorption spectroscopy** to characterize solvent interactions.
- Deployed **Vacuum Distillation** technique to purify **OS**.
- Applied **emission spectroscopy** to further understand the behavior of mixed solvent systems.
- Utilized software tools like **IGOR Pro** & **Origin** for data analysis and visualization & graph analysis in **python**.

## PROJECTS

### Cantilever ToolBox and Surgical Blade

Under Prof. Anish Upadhyaya

Course Project

May 2021 - July 2021

- Contributed to the design and manufacturing process of a Toolbox with a 9-member team, including Dr. Anil Kumar Verma and Anish Upadhyaya, M.D.
- Used 3D Modeling in **Fusion360** and Created a detailed 3D model of the Toolbox, demonstrating proficiency in design and cost finalization.

### SARS-CoV-2 Fusion

Under Dr. Nagma Praveen

UG Project

Jan 2022 - May 2022

- Investigated the intricate process of **SARS-CoV-2 fusion** utilizing an opportunistic model to understand the fusion mechanism of the coronavirus membrane.
- Explored receptor binding and priming of the spike protein for membrane fusion.
- Gained in-depth understanding of viral behavior, specifically in the context of binding and fusion processes in **SARS-MERS Covid**.

### Numerical Methods in Fortran Programming



Course Assignments, Prof. Mainak Sadhukhan

Jan 2023 - May 2023



- Implemented Lorenz system solved by **Euler forward** and **Runge Kutta-4** methods and comparing using 3D animated plot and also X-Z graph with appropriate given points and we see variation in 3d graph.
- Implemented **Gauss Legendre Polynomial**, **Monte Carlo**, **Trapezoidal**, and **Simpson's Rule** to identify the integration.
- Used **Ising Model** tried Stabilizing the Energy and Temp. Dependencies where Specific heat in constant volume or also Magnetic momentum Magnetisation determination. Solved Quantum Wave Function & Density Matrix.

## SELF PROJECT



### Full Stack E-commerce + Dashboard & CMS

- Created an ecommerce-application having sing-in sign-out functionality, catalogue store database and online payment option using stripe.
- Implemented an analysis mode for the root user to view sales and revenue data in a graphical form.  Admin
- Used Latest web Development technologies including **React**, **Talwind**, **Prisma**, **MangoDB**, **MySQL**, **PlanetScale**, **Stripe**, **NextAuth**, **App Router** & **Deployed on Vercel**.  Client


### Angular-Powered Personal Website

- Crafted a dynamic website utilizing **Angular** as the web framework and worked on it's functionality.  Link
- Employed **Electron JS** and comprehensive web development techniques.  Project

### A Server-Client Solution Developed Using Android Studio

- Harnessed the capabilities of **Android Studio**, to develop a versatile application comprising a  Server &  Client application and used **Google Firebase** to store data.

### Karbon-Board

- Fetched data from the API and allow users to group and sort tickets based on the given options.
- Component Structuring: Appropriately structured, promoting reusability and maintainability.  Project

## POSITIONS OF RESPONSIBILITY

### Council Secretary Exhibition, IITK, March - 2020 - 2021

- Responsibility for Exhibition Planning and Execution.

### Senior Executive, Techkriti RoboGames IITK, 2020 - 2021

- Prepared a database of various colleges and contact them as well as convince them to Participate in the RoboGames —RoboCaAD— Manoeuvre using abstract calling.

### Senior Secretary, Chess Club IITK, April'20 - April'21

- Organized chess tournaments for the campus community.
- Conducted various events on Lichess

### Secretary in Ritambhara, Antaragni IITK, July'20 - Oct'20

- Prepared a database of various fashion giants and We contacted them and convince them to sponsor our event.
- Contacted various colleges and their fashion societies and increased the participation in the event.

## SKILLS

**Languages :** Fortran Programming, C/C++, MySQL, HTML/CSS,  $\text{\LaTeX}$

**Frameworks:** Electron, React, Node.js, Angular, Next.js

**Developer Tools:** Git, VS Code, Sublime Text Editor

**Android Development:** Android Studio, Flutter, Kotlin

**Operating System/ Terminal:** Knowledge of Unix/Linux or Windows environments, CMD, Power Shell, Shell Script

## RELEVANT COURSES

Fundamental of Computing

Computer Programming For Chemistry

LA & ODE

Thermodynamics