

# Bhavy Malik

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## EDUCATION

- **Indian Institute of Technology (IIT), Kharagpur** West Bengal, India  
*Dual Degree - Mechanical Engineering; GPA: 8.34/10* 2020 - Expected 2025
- **G.D Goenka Public School, Rohini** New Delhi, India  
*Class 12, Central Board of Secondary Education (CBSE); Score: 94.6%* 2018 - 2020
- **S.D Public School** New Delhi, India  
*Class 10, Central Board of Secondary Education (CBSE); Score: 91.8%* 2008 - 2018

## INTERNSHIP

- **Software Development Intern — Hushh.ai** Jun'24 – Aug'24  
*Objective: Built a B2B platform for product catalogue management and analytics report*
  - Streamlined onboarding for **30+** brands using **React**, **Node.js**, and **Supabase**, enabling **100%** automation
  - Integrated **Google OAuth** (OAuth2) using `useGoogleLogin`, reducing manual account setup time by **90%**
  - Added pagination and rendering logic for **10000+** products, improving page loading performance by **45%**
  - Performed CRUD operations using React hooks, **useState** and **useEffect**, reducing form-related bugs by **40%**

## PROJECTS

- **Optimised Matrix Multiplication using DeepMind's Algorithm** Dec'24  
*Objective: Engineered one of the fastest matrix multiplication implementations using hybrid algorithms*
  - Implemented matrix multiplication algorithm by combining **DeepMind's** and **Winograd's** algorithm in C++
  - Enhanced efficiency by **50%** through utilization of the divide-and-conquer principle in DeepMind's algorithm
  - Incorporated the **Strassen-Winograd** algorithm as a base case, reducing depth of recursion stack by **18%**
  - Reduced the computational matrix multiplication time for **1000x1000** matrices from **3289 ms** to **791 ms**
- **AlgoDSA Search Engine — Self Project** Sep'24  
*Objective: Created a responsive search engine that retrieves relevant DSA problems based on user queries*
  - Designed a search engine using **Node.js** that lists **50** relevant AlgoDSA problems on giving a search input
  - Scraped **1000+** problems using Beautiful Soup and Selenium Web Driver from sites like Leetcode and CF
  - Used NLTK library to segregate words into stop words & **keywords**, implementing **TF-IDF** algorithm
  - Applied **lemmatization** techniques and integrated spell-check functionality across all user query strings
  - Calculated **cosine similarity**, producing results within **350ms**, and deployed the application using **Vercel**
- **Particle Image velocimetry — Masters Thesis Project** Aug'24  
*Objective: Created an ML model to determine the velocity vector of spray particles*
  - Preprocessed 4K video @30fps using **adaptive thresholding**, morphological operations for noise reduction
  - Tracked **1000+** particles using **OpenCV's** Blob Detection & **Hungarian Algorithm** with **92%** accuracy
  - Generated **probabilistic** distributions for particle size, velocity, and density, with **84%** model confidence

## AWARDS AND ACHIEVEMENTS

- Among top **1 %** of the **10 Lakh** students in the country appearing for Joint Entrance Examination 2020
- Achieved a rating of **1522**, a specialist on **codeforces**([https://codeforces.com/profile/pn\\_77](https://codeforces.com/profile/pn_77))
- Successfully led a team of three to the **final round** of Innerve'22, the annual **tech fest** of IGDТУW
- Awarded **100%** scholarship with annual stipend for higher secondary education in GD Goenka Schools India

## SKILLS SUMMARY

- **Languages & Framework** : C, C++, Python, Java, Javascript, HTML, CSS, SCSS, NodeJS, ReactJS, SQL
- **Software**: Git, Vercel, GCP, Supabase, Figma, VS Code, MATLAB, ANSYS, SolidWorks, MS Office
- **Soft Skills**: Leadership, Event Management, Communication, Adaptability, Teamwork, Time Management

## EXTRA CURRICULAR ACTIVITY

- Volunteered and helped raise an amount of **Rs 136000** for the **welfare** of **Gopali Village** during **Covid-19**
- Participated and organised a **2-day event** for **PetFed India**, New Delhi with a footfall of over **10000** people
- Trained a team of **25 individuals** over a year in the field of web designing and web development under GYWS
- Designed the powertrain components for an **FSAE prototype** vehicle under IIT-KGP official Research Group