HARSH WASNIK | 20MA20023

MATHEMATICS & COMPUTING (M.Sc. 5Y)

EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2025	M.SC(5YR)	IIT Kharagpur	7.76 / 10
2020	CBSE Class 12	Tuli Public School	85%
2018	ICSE Class 10	Marie Poussepin's Academy	92.5%

INTERNSHIPS

Full-Stack Developer Internship | Infinte Loop Technologies Private Limited   **[Jun'22 - Aug'22]**
- Developed a **video-live streaming** sever featuring RTMP ingest and HLS delivery using NGINX supporting upto 512 simultaneous streams
- Implemented live chat feature by using **Django Channels**, thereby utilizing the **WebSockets** protocol enabling real-time communication
- Converted monolithic to **microservices** architecture by **dockerizing** application and migrated from Django 2.2 to 4.2 improving support
- Developed multiple APIs utilizing the Django Rest Framework to support CRUD operations for various types of social media posts

PROJECTS

Leetcode problems Search Engine | Self Project   **[May'23 - Jun'23]**
- Scraped more than **2200** LeetCode problems by using Python and Selenium and stored Titles, descriptions, and links for further processing
- Computed the Term Frequency and Inverse Document Frequency and used the **TF-IDF** score to rank problems based on search query
- Built a **web application** using **Flask** to provide an intuitive user interface to search problems and show results and deployed it on **Render**

Cricket Team Selector and Match Outcome Predictor | Prof. Bibhas Adhikari | Term Project   **[Feb'23-Apr'23]**
- Built a web scraper using **Selenium** and **Beautiful Soup** to extract player performance and ball-by-ball data for last **533** ODI Intl matches
- Attained best accuracy of **86.14%** to predict match outcome by utilizing Linear Regression and Random Forests trained on **1.37 lakh** balls
- Devised a batsman and bowler **strength index** to select the playing 11 out of a pool of 20 players using the team selector model

Customer Relation Management Application | Self Project   **[Apr'22-Jun'22]**
- Developed a comprehensive Customer Relationship Management system using Django for efficient order tracking and management
- Implemented custom Django forms and decorators to streamline CRM operations, resulting in increased efficiency and user satisfaction
- Utilized **Django Templates** to craft visually appealing UI along with using **template inheritance** ensuring a seamless experience

Social Media Application | Self Project   **[May'21- Jun'21]**
- Built a social media app using **MERN** stack enabling users to create, share, and react to posts in a collaborative online environment
- Employed **Context API** for streamlined state management and reduced the API calls significantly, resulting in a **30%** reduction in load time
- Incorporated Json Web Token(**JWT**) Authentication for secured user access and interactions by allowing only logged-in users to view posts

COMPETITION/CONFERENCE

Hack-an-Intern | KodeinKGP, IIT Kharagpur | Bronze   **[Oct'22 - Nov'22]**
 Objective: Implement a trading platform where users can trade tokens amongst other users while supporting different types of orders
- Among the **top 3** teams in a 48-hour long institute-wide Hackathon, which received participation from more than **20** different teams
- Built a user-friendly interface using **React.js**, **Ant Design** and utilized **Highcharts.js** to incorporate dynamically updating price charts
- Designed and implemented a **stock price matching** algorithm for limit and market orders enabling dynamic pricing using Django backend

Website Hackathon | Technology Students' Gymkhana, IIT Kharagpur | Gold   **[Dec'21-Jan'22]**
 Objective: Develop a one-stop solution to manage all co-curricular and extra-curricular activities under the purview of TSG, IIT Kharagpur
- Led a team of 11 members to win the podium in multiple categories and achieved the prestigious **First Position** amongst 30+ teams
- Built **React.js** website served through APIs built using **django-rest-framework** along with **jwt** authorization and email verification via OTP
- Incorporated features like Bill Reimbursement Portal, Grievance Portal, real-time Notifications, and Admin Panel for content management

SKILLS AND EXPERTISE

Programming Languages: C, C++, Javascript, Python, SQL, Typescript*, Java*, Rust* **Developer Tools**: Git, Github, Arch Linux, Docker
DBMS: MySQL, MongoDB* **Frameworks/Libraries**: Django, Flask, React.js, Next.js, Beautiful soup, Selenium, Node.js* [* familiar]

COURSEWORK INFORMATION

File Organisation and Database Management System | Design and Analysis of Algorithms | Programming and Data Stuctures| Big Data Analysis | Computer Organisation Architechture | Usable Security and Privacy | Computer Networks

POSITIONS OF RESPONSIBILITY

Tech Team Sub-Head | Kshitij, IIT Kharagpur   **[Aug'21 - Jun'22]**
- Developed and managed the Kshitij'22 website driving **19,500+** registrations and the Admin Panel enabling efficient content management
- Boosted the desktop performance on PageSpeed insights to **88** through **lazy loading** images and reducing the network payload
- Automated the certification distribution process by innovating a **certificate generator** app used by 3000+ participants of Kshitij'22

EXTRA CURRICULAR ACTIVITIES

- Actively participated in the Illumination and Inter-Hall Opensoft Competition organized by TSG, IIT Kharagpur in 2022
- Spread awareness as a member of NSO Health and Fitness and learned swimming as a part of the Technology Aquatics Society

!Self declared by the student, CDC could not verify the relevant documents