

KUSHAL NATANI

✉ kushalnatanani123@iitkgp.ac.in |  kushalnatanani3 |  Conjuror1279 | 📞 +91-9116112443

ACADEMIC DETAILS

Education	Institute	Year	CGPA / %
B. Tech and M. Tech (Dual Degree): Computer Science and Engineering	IIT Kharagpur	2018 - 2023(Expected)	📈 8.96 / 10

AWARDS AND ACHIEVEMENTS

- Achieved **AIR 285**(General Category) in **JEE Advanced 2018** among **2 lakh** students, securing a position in **top 0.1%**.
- Achieved **AIR 504**(General Category) in **JEE Mains 2018** among **13 lakh** students, securing a position among **top 0.1%**.
- Recipient of the **KVPY Fellowship** by Govt. of India, securing **AIR 348** among 1.5 lakh students across India in SA stream.
- Bagged **Gold medal** for securing a position in **top 35 in India** in the **Indian National Astronomy Olympiad**.
- Awarded certificates for being in the **top 1%** in India for the **NSEP and NSEC** examinations(conducted by IAPT).
- Awarded the **NTSE scholarship** by **Govt. of India** and **STSE scholarship** by **Govt. of Rajasthan**.
- Expert on **Codeforces** with Peak Rating 1747 and secured **global rank 84** in **Codechef** cook-off challenge. 📈

INDUSTRIAL EXPERIENCE

Summer Analyst | Global Markets Division, Goldman Sachs 📈 Bangalore | May'22 - July'22

- Developed an UI using **react** and **AG-grid** to display aggregated quantity of securities over various **swap orders**.
- Fetched data using **Axios** library and used **state**, **query** and **effect** hooks for caching and adding filters on fetched data.
- Enhanced **Proforma report** by reporting **Composition changes** from previous day & upcoming **Corporate actions** with expected change in **notional**, for various unsupported indices using **Slang**.
- Worked in both **Engineering** and **Strats** teams and received **pre-placement offer** from Goldman Sachs

PROJECTS

Event Management System  Prof. Shamik Shural | Mar'21-May'21

- Developed **Web App** for **Event Management** using **Django framework**, enabling creation of users, events and venues.
- Created UI in **HTML and CSS** using bootstrap, and used **SQL** queries for storing data in **MySQL database**.
- Added functionality to create and update user, host & book events, search events on tag/location/name.
- Created a basic android application having functionalities for adding users, adding events, and booking events.

Relevant Documents Retrieval  Prof. Saptarshi Ghosh | Aug'21-Oct'21

- Retrieved query relevant documents using **Boolean Retrieval System** and created **Inverted Index** using **nlTK**.
- Implemented **TF-IDF** based **ranked retrieval system** and evaluated the algorithm using **mAP** and **NDCG** scores.
- Improved **Recall** of the retrieval system by using **Relevance feedback** to modify the query vectors.

Socket Programming  Prof. Sandip Chakraborty | Feb'21-Mar'21

- Enabled **File Transfer** between the client and server using **Stream Socket** with block based transfer.
- Developed a **Peer-to-Peer Chat Application** using **select()** syscall and **TCP** as underlying transport layer protocol.
- Established communication between two process by implementing **Datagram Sockets** using **POSIX C** library.

Autonomous Ground Vehicle(AGV) Research Group, IIT Kharagpur  Feb 19 -July '19

- Applied Feature matching, point triangulation and 3-D map reconstruction using **visual SLAM** algorithms.
- Implemented Pothole detection algorithms using **Canny filter** to extract edges and **Hough transform** to detect circles.
- Applied **K-means clustering** to identify lane points and approximated shape of lanes using **RANSAC algorithm**.
- Integrated all the modules through the **ROS** and tested modules on **Gazebo** simulation before deployment.

TECHNICAL SKILLS

CS Concepts: Data Structures and Algorithms, Operating Systems, DBMS, Networks, Object oriented programming,

Languages : C, C++, Java, Python, HTML, CSS, JavaScript, SQL, Kotlin

Libraries/Frameworks : C++ STL, ROS, OpenCV, Git, NumPy, Pandas, PyTorch, Django, Axios, Rest API, React

Database/Platforms : MySQL, Oracle Database, Android Studio, Vim, Ubuntu, Windows

POSITIONS of RESPONSIBILITY

President | CodeClub, IIT Kharagpur Sept'18 - Present

- Conducted up.AI summit for AI awareness with speakers from Capillary Technology, Jio, etc with over 300 attendants.
- Organised Various introductory programming workshops like Competitive programming, Python introduction, etc.

Student Mentor | Student Welfare Group, IIT Kharagpur July'20 - Apr'21

- Mentored 3 first year Undergraduate students for an academic year about college programs, student groups and events.