

RISHUL ARORA

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IIIT Gwalior

Integrated Masters in Information Technology

2021 - Present

CGPA : 8.23

Skills

Programming Languages: C++, C, Python, Go, Java

Tools and Technologies: Git, VS Code, Docker, TensorFlow, PyTorch, Numpy, Keras, MySQL, MongoDB

Web Technologies: HTML, CSS, JavaScript, ReactJS, NextJS

Concepts: Data Structures, Algorithms, Machine Learning, Operating Systems, Computer Networks

Experience

Software Engineering Intern

Summer 2024

Google - Android Onboarding Team

Bengaluru, India

- Optimized **WifiD2D transfer speed** in Android Backup and Restore process, achieving a **30% speed improvement** through enhancements at both WifiSocket and Wifi Transport layers using **Java**.
- Improved data transfer efficiency on **source and target devices** using **Java multithreading**, **CompletableFutures**, and **Android ParcelFileDescriptor** for asynchronous file handling.
- Collaborated with cross-functional teams using **internal Google tools** and contributed to UI updates by refining Android icons and interface elements.
- Work will impact **billions of Android users** during device migration, enhancing user experience globally.

Projects

Malware Detection of PE Files and URLs using Machine Learning under Dr. Aditya Trivedi

[GitHub](#)

- Conducted research on machine learning solutions for detecting malware in **Portable Executable (PE)** files and URLs, achieving **99.4%** accuracy for PE file detection and **98.46%** accuracy for URL detection.
- Applied **Random Forest**, **Decision Tree**, and **Logistic Regression** classifiers, utilizing **TfidfVectorizer** for feature extraction and achieving a **4.7%** accuracy improvement over prior research.
- Documented findings, highlighting advancements in **cybersecurity applications** and preparing comprehensive research reports on the effectiveness of proposed solutions.

Samudrapath — Python, Flask, ReactJS

[GitHub](#)

- Won the **Smart India Hackathon 2024** by developing a fast and versatile ship routing algorithm to optimize fuel consumption, maximize safety, and minimize travel time.
- Designed an optimal routing algorithm using **NSGA-II (Genetic Algorithm)**, addressing complex ship navigation challenges.
- Integrated **Mapbox API** to create an interactive globe visualization, allowing users to explore and interact with optimized ship routes.

Honours and Awards

Smart India Hackathon 2024 Winner

December 2024

Ministry of Earth Sciences, Government of India

- Won the **Smart India Hackathon 2024**, a national-level competition with **40,000+ participants** from **2,500+ institutions**.
- Ranked in the top **0.25%** of teams for developing a solution addressing critical challenges under the Ministry of Earth Sciences.

ICPC Regionalist

2024

International Collegiate Programming Contest, India Region

- Qualified and participated in the prestigious **ICPC Regionals 2024**, among the top competitive programming teams in the country.

Achievements

- Specialist** (1450+) on Codeforces and **Knight status on LeetCode** (1850+), placing in the top **5% globally**.
- Successfully solved over 1000+ questions** on competitive programming platforms including Codeforces, LeetCode, and CodeChef.
- Achieved **Global Rank 363** in February Cook-Off 2023 Division 4 on CodeChef.