

## **Introduce yourself**

"Hi, my name is Satya Kushwaha. I'm currently pursuing my BTech in Computer Science from the Indian Institute of Information Technology. I have a strong foundation in C++ and good knowledge of data structures and algorithms. I've also gained experience in web development and Android development. I'm currently learning machine learning, where I work with large datasets, which I believe will be highly beneficial in a data analyst role. Additionally, I'm working on a research paper focused on communication, further developing my problem-solving skills. I'm eager to apply my skills in data analysis and contribute to your team."

## **Why do you consider a right fit for the role**

"I believe I'm a strong fit for this role because of my solid foundation in computer science, particularly in C++, data structures, and algorithms, which are essential for efficient data processing and analysis. My experience in web and Android development has equipped me with a good understanding of user needs and the importance of data-driven decision-making.

Currently, I'm learning machine learning, where I work with large datasets, gaining practical experience in handling and analyzing data. This experience is directly applicable to the data analyst role, where analyzing and extracting insights from large datasets is key.

Moreover, my ongoing research paper on communication has further honed my analytical and problem-solving skills, making me well-prepared to tackle complex data challenges. I'm excited about the opportunity to apply my skills and contribute to your team, and I'm confident that my background and enthusiasm make me a great fit for this role."

## **Tell the project you have worked on**

### **1. AIRAWAT | Android App Development**

"I developed AIRAWAT, a mobile app for monitoring elephant movements using Flutter and Dart. Integrated Google Maps API for real-time tracking and Firebase for secure data handling. This project improved incident response time by 30% and streamlined safety alert processes."

### **2. RESIDENCE ROVER | Real Estate Management**

"I created a web-based property management system with JSP and Spring Boot, enhancing the performance by 20-30% through Apache Tomcat. Implemented secure authentication with MySQL, streamlining property management for users."

### **3. TALENTCONNECT | Job and Internship Aggregator**

"I built TalentConnect to consolidate job and internship listings with React and Tailwind, increasing user engagement by 20-30%. Developed the backend with Node.js and MongoDB, reducing search time by 40% and improving data management."

## **Describe a situation where you face a problem and how did you solve it**

### **Situation:**

"While working on the TalentConnect project, we faced an issue with slow data retrieval times, which was affecting user experience. The application was built with React on the frontend and Node.js with MongoDB on the backend."

### **Task:**

"The task was to improve the data retrieval speed to ensure that users could access job and internship listings quickly and efficiently."

### **Action:**

"I analyzed the performance bottlenecks and found that inefficient database queries were the primary cause. I optimized these queries and introduced indexing in MongoDB to speed up data retrieval. Additionally, I refactored parts of the backend code to reduce processing time."

### **Result:**

"These improvements led to a 40% reduction in search times and a smoother user experience. The application's performance was enhanced, resulting in higher user satisfaction and engagement."

## **Describe a stress full situation and how did you solve it**

### **Situation:**

"While participating in a competitive programming contest, I was tasked with solving a problem that involved finding the longest increasing subsequence in an array of integers. The challenge was complicated by the large size of the input data, which made brute force solutions impractical."

### **Task:**

"My goal was to develop an efficient algorithm to solve the problem within the time constraints and handle large datasets effectively."

### **Action:**

"I approached the problem by using dynamic programming. I first implemented a basic  $O(n^2)$  solution but realized it wouldn't be efficient enough for larger inputs. To optimize, I used a binary search approach combined with dynamic programming, reducing the time complexity to  $O(n \log n)$ . I applied this approach to update the longest subsequence efficiently and handle large datasets quickly."

### **Result:**

"This optimized solution allowed me to solve the problem within the given time limits and handle large inputs effectively. It also earned me a high ranking in the contest and demonstrated my ability to optimize algorithms for competitive programming scenarios."

