Ayush Singh

MP, India

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Education

Jabalpur Engineering College   2020 – Expected 2024
Bachelor of Technology in Information Technology — 3rd Year Student— Current CGPA: 8.89   *MP, IN*

Technical Skills

Languages & DBs: Java, C++, Python, SQL, IPFS, Firebase
Developer Tools: IntelliJ, VS Code, Remix
Frameworks & Technologies: Django, web3.js, Git & GitHub, Socket and Network Programming.
Math Stack: Cryptography, Graph Theory, Data Structures & Algorithms
Courses taken: Cryptography, Computer Networks, Blockchain, DBMS, Distributed Systems-DHTs, Linux-kali, OS Basics

Projects

Blockchain Implementation | *Python, Flask, REST APIs, Postman, Cryptography*   **August 2021**
- Implemented a peer-to-peer direct payment system using a custom Blockchain in Python and Flask, with proof-of-work consensus.
- Designed a high-performance network of three nodes, achieving 1-second average block mining time.
- Skilled in relevant technologies and decentralized systems, as demonstrated by successful project development and implementation.

Distance Vector Protocol Implementation | *Java, Computer Networks, Sockets, Graph Theory*   **February 2022**
- Implemented Distance Vector Protocol (Bellman-Ford Algorithm), demonstrating proficiency in distributed network routing.
- Utilized UDP sockets, multi-threading, and multi-processing to find the shortest routing paths in a distributed network, showcasing understanding of network communication and optimization techniques.

Pastry-DHT | *Java, Computer Networks, Distributed System, Multi-Threading, Hashing*   **April 2022**
- Implemented a Distributed Hash Table in Java.
- Pastry provides a constant look-up time(log(n)) similar to hashtables for the files in the cluster.
- Files are stored in the form of key-value pair and can be efficiently retrieved by any node.
- The nodes are connected in a circular fashion like a normal DHT, where they can communicate with each others using in-built protocols.

Immutable Ideas | *React, Solidity, Ethers.js*   **March 2022**
- The website lets you mint your project ideas on the blockchain so that you can prove you came up with the idea.
- This was a hackathon team project, and my role was to code the backend in Solidity.
- I used SVGs to convert text to image and then stored the image as an NFT on the blockchain.
- More on this here: [Code](#) and [Demo video](#)

Achievements

Specialist on **Codeforces** with max-rating of 1500.
All India Rank of 49 in Codeforces Div2 Contest #813.
My best global ranks on Codeforces are 1032, 1410, 1732.
~700th highest community contributor on Codeforces.
Google Code Jam 2023 rank 744 globally and two times GFG Jobathon complete scorer.
Under top 50 teams in Flipkart Grid Information Security Challenge (Top 0.01%).
Solved 1000+ DSA-Math problems on GFG, CSES, and Codeforces.
Was under Top 50 developers in Polkadot APAC Hackathon 2021.

Leadership / Extracurricular

Member of Technical Writers Team @ Developer DAO	**October 2021 - Present**
Core Team member & Events @ Google Developer Society JEC	**October 2021 - Present**
Guided Juniors on How to start Competitive Programming in an ACM society event.	**August 2022**
Member @ Cryptographers	**June 2021 - Present**
A Regular Attendee of Good Hackathons.	