

AVINESH PRATAP SINGH

[in LinkedIn](#) | [+91 630-797-8382](#) [pratapavinesh.com](#) | [avineshsingh959@gmail.com](#) | [GitHub](#)

Education

•  IIT Dhanbad	B.Tech Computer Science	CGPA: 8.9	Dhanbad	12/2020 - 05/2024
• JNV Bangalore	12th(CBSE)	Percentage: 94.2%	Bangalore	06/2019 - 05/2020
• JNV Bahraich	10th(CBSE)	Percentage: 91%	Bahraich	06/2017 - 05/2018

Skills & Relevant Coursework

- C++ | Python | SQL | MySQL | MongoDB | Git | Github
- Systems Design | Mathematics | DSA | DBMS | OOPS | OS | Computer Network | Software Engineering
- [Codeforces](#) - 1753 [Expert](#) PC-1123 | [Codechef](#) - 2189 5 [★](#) PC-516 | [Atcoder](#) - 1324 [Cyan](#) PC-391 | [Leetcode](#) - 2331 PC-1000
- [Guardian](#) | [Hackerrank](#) - 2377.29 6 [★](#) [Gold level](#) PC-500

Experience

- | | | | |
|-------------------------------------|---------------|------------------|-------------------|
| Software Engineer, Full time | Arista | Bangalore, India | 07/2024 - Present |
|-------------------------------------|---------------|------------------|-------------------|
- Managed the **FlexDigest** feature, a **critical system component** ensuring **efficient load-balancing** of incoming traffic across eligible outgoing ports. Provided new chip support and protocol header integration.
 - Leveraged C++, Python, Git, and GitHub to enhance the system, resulting in network performance by 25% and reducing latency by 15%.
- | | | | |
|----------------------------------|---------------|------------------|-------------------|
| Software Engineer, Intern | Arista | Bangalore, India | 05/2023 - 07/2023 |
|----------------------------------|---------------|------------------|-------------------|
- Designed and implemented Load Balancing in the case of Tunnelled Packets Like MPLS, and GTP.
 - Oversaw 100% of the project lifecycle, integrated CI/CD pipelines, and conducted code reviews. Improved 70% Performance and 30% More Control than Previous Methods. Also Implemented the Symmetric Hashing in the Case of Tunnelled Packets.
- | | | | |
|--------------------------------------|---------------|----------------|-------------------|
| Software Developer, Part-time | TEXMiN | Dhanbad, India | 05/2022 - 05/2023 |
|--------------------------------------|---------------|----------------|-------------------|
- Designed and developed end-to-end solutions for automating the sprinkler system targeting More than 50 coal Mines.
 - Completed almost 100% of the development lifecycle Processes, including hardware programming, sensor tuning, **developing and Optimise the algorithms, test and deploy the application, and physically deploy sensor nodes.**
 - Achieved an impressive 80% reduction in water wastage and minimised manual work by 90%.

Projects

- | | | |
|--|------------------------|-------------------|
| Scalable Medicine bottle label Parser | MedLabel Parser | 01/2024 - 05/2024 |
|--|------------------------|-------------------|
- Process medicine labels to extract crucial information such as names, compositions, and expiry dates.
 - Used AWS S3 for image storage, MongoDB NoSQL for scalable DBMS, and JWT-based SSO for secure authentication.
 - Designed a 100% Scalable and highly efficient system through Splitting of Services, Redundancy, Partitions, cache, Queue, Sharding,
 - For easy deployments, CI/CD pipelines, containers, and Kubernetes are taken.
- Link: [pratapavinesh](#)
- | | | |
|--|---------------|-------------------|
| Energy-Efficient FANET Protocol | EcoFly | 08/2023 - 05/2024 |
|--|---------------|-------------------|
- Implemented Energy-Efficient FANET Protocol for optimised UAV communication in disaster scenarios.
 - Optimization (IPSO) algorithms for positioning, clustering, selecting cluster head and routing.
 - Used Matlab for simulation and visualisation and tested with corner cases.
- Link: [pratapavinesh](#)
- | | | |
|-------------------------------|-----------------|-------------------|
| Loyalty Rewards System | FlipCoin | 07/2023 - 12/2023 |
|-------------------------------|-----------------|-------------------|
- Designed and implemented a cutting-edge blockchain-enabled loyalty and rewards system for E-commerce platforms.
 - Engineered **blockchain-based fungible loyalty points**, optimising user engagement and rewards using **Smart Contracts and solidity.**
 - Orchestrated instant on-chain settlements, designed rules for token earning, and developed a user-friendly interface for efficient loyalty point management and redemption using **ReactJS.**
- Link: [pratapavinesh](#)

Responsibility and Mentorship

- [Codeism](#) **Instructor**: I was part of the top 10 students' team at IIT Dhanbad. Mentored More than 200 students in competitive programming, project development and interview preparation. More than 180 students were placed. 10/2022 - 03/2024
- [BFX](#) **Programming coordinator**: Guided over 50 students in DSA, Computer Fundamentals and project development. 04/2021 - 05/2022
- **Class Representative** of IIT Dhanbad CSE Branch. 08/2023 - 05/2024

Others

- **JEE Advance and JEE Mains**: Secured **AIR 2888** in **JEE Advance** and **99.66 percentile** in **JEE Mains.**
- Published the Research Paper [Prioritization-based Delay Sensitive Task Offloading](#) on Pervasive and Mobile Computing
- **Secured 1st Position** in overall CSE batch in 8th semester with **9.88/10.00 SGPA.**
- **Amazon ML SSP** (2022 and 2023) | **TOP 100** in **Amazon HackON 2022** | **Qualified Flipkart Grid 5.0 Software Development Track**
- **Global Rank 240** in **Google Kickstart 2022 Round F** | **Global rank 47** in **Codechef LunchTime 2022** | **Global Rank 15** in **Codechef CookOff 2022**