

# AVINESH PRATAP SINGH

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## Education

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

## Skills & Relevant Coursework

- C | C++ | Python | JS | SQL | HTML | CSS | ReactJs | MySQL | MongoDB | Git | Github | Gerrit | GitarBand | Linux Server | Containers
- Systems Design | Mathematics | DSA | DBMS | OOPS | OS | TOC | Computer Network | Software Engineering | AWS
- [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

- |                                     |                      |                         |                          |
|-------------------------------------|----------------------|-------------------------|--------------------------|
| <b>Software Engineer, Full time</b> | <b><u>Arista</u></b> | <b>Bangalore, India</b> | <b>07/2024 - Present</b> |
|-------------------------------------|----------------------|-------------------------|--------------------------|
- Currently focused on generalising load balancing across all tunnelled packets. Expect significant performance improvements of 60-80% and enhanced control within the 40-60% range.
  - Working with languages like C++, Python, Go, JS and technologies like Gerrit, gitarBand, Linux servers and Containers.
- |                                  |                      |                         |                          |
|----------------------------------|----------------------|-------------------------|--------------------------|
| <b>Software Engineer, Intern</b> | <b><u>Arista</u></b> | <b>Bangalore, India</b> | <b>05/2023 - 07/2023</b> |
|----------------------------------|----------------------|-------------------------|--------------------------|
- 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.
- |                                      |                      |                       |                          |
|--------------------------------------|----------------------|-----------------------|--------------------------|
| <b>Software Developer, Part-time</b> | <b><u>TEXMiN</u></b> | <b>Dhanbad, India</b> | <b>05/2022 - 05/2023</b> |
|--------------------------------------|----------------------|-----------------------|--------------------------|
- 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, deploy the application, and physically deploy sensor nodes.**
  - Achieved an impressive 80% reduction in water wastage and minimised manual work by 90%.

## Projects

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|--|-------------------------------|--------------------------|
| <b>Scalable Medicine bottle label Parser</b> | <b><u>MedLabel Parser</u></b> | <b>01/2024 - 05/2024</b> |
|--|-------------------------------|--------------------------|
- 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 employs 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](#)
- |  |                      |                          |
|--|----------------------|--------------------------|
| <b>Energy-Efficient FANET Protocol</b> | <b><u>EcoFly</u></b> | <b>08/2023 - 05/2024</b> |
|--|----------------------|--------------------------|
- 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](#)
- |                               |                        |                          |
|-------------------------------|------------------------|--------------------------|
| <b>Loyalty Rewards System</b> | <b><u>FlipCoin</u></b> | <b>07/2023 - 12/2023</b> |
|-------------------------------|------------------------|--------------------------|
- 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**: Being 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**