AVINESH SINGH

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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 Development Engineer, Full-time — **Amazon** — *Bangalore, India* — **05/2025 - Present**

- Maintain and enhance Just Walk Out (JWO) technology by implementing new features, optimisations, and bug fixes using Java and internal tools.
- Collaborate with cross-functional teams to adapt the system to evolving business requirements and improve operational efficiency.

Software Engineer, Full-time — **Arista** — *Bangalore, India* — **05/2023 - 05/2025**

- 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.
- Used C++, Python, Git, and GitHub to enhance the system, resulting in a performance increase of 25% and a reduction in latency of 15%.

Software Engineer, Intern

- 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, queues, Sharding.
- For easy deployments, CI/CD pipelines, containers, and Kubernetes are used. **Link: pratapavinesh**

Energy-Efficient FANET Protocol — **EcoFly** — **08/2023 - 05/2024**

- Implemented Energy-Efficient FANET Protocol for optimised UAV communication in disaster scenarios.
- Optimisation of (IPSO) algorithms for positioning, clustering, selecting cluster head and routing.
- Used Matlab for simulation and visualisation and tested with corner cases. **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