PAYAS VAISHNAV

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Education

Pandit Deendayal Energy University **July 2023 – May 2027**
*Bachelor of Technology in Computer Engineering (**9.24**/10 CGPA)* *Gandhinagar, Gujarat*

Work Experience

Jio Platforms Ltd. **May 2025 – July 2025**
SDE Intern *Mumbai, Maharashtra*

- Worked on Jio's **Network Instrumentation Platform**, a **large-scale distributed system** for **real-time and historical network traffic analysis**.
- Developed a **high-performance** C++ **microservice** using **simdjson** and **librdkafka** for efficient ingestion and **parsing** of **high-volume packet capture (pcap) data**, achieving ≈ 4.5× JSON parsing over traditional libraries.
- Built **scalable, containerized data pipelines** with **Kafka** and **Docker**, enabling modular and fault-tolerant telemetry flow across services.
- Handled traffic from both **core and IoT networks**, leveraging external identifiers and applying network-level optimizations.
- Explored **HDFS** for distributed storage and **Boost C++** libraries to enhance performance, reliability, and code maintainability.

Projects

Grievance Registration System | *MongoDB, Express.js, React.js, Node.js, HTML/CSS* ***GitHub Link***

- Built a **full-stack** complaint resolution platform using the MERN stack with **real-time issue tracking** and a **role-based admin dashboard**
- Developed secure **JWT-based auth** and **modular RESTful APIs** to streamline the **end-to-end** complaint lifecycle from user registration to resolution.
- **Collaborated** with a cross-functional team to deliver a **fully functional MVP** in under 12 hours during a hackathon, tailored for deployment by a local municipal authority.

Network Packet Processing Suite | *C++, Kafka, librdkafka, simdjson*, HTML/CSS ***Hosted Link***

- Built a suite of **C++ microservices** for **converting**, **parsing**, and **streaming network packet data**.
- Emphasized **loose coupling** and **observability**, allowing independent **deployment** and **efficient service** orchestration.

Personal Vault (In Progress) | *MongoDB, Express.js, React.js, Node.js, HTML/CSS* ***GitHub Link***

- Developing a **zero-trust inspired** digital vault for secure storage of sensitive assets like IDs, certificates, and encrypted notes.
- Designed with **modular RESTful APIs**, **JWT-based auth**, **2FA**, and **role-based access control** over encrypted, schema-validated storage.
- Planned enhancements include **remote data wipe**, **access anomaly detection**, and **end-to-end encryption** for maximum security and resilience.

Technical Skills

Languages: C, C++, Java, JavaScript, SQL, Python
Systems/Infrastructure: Linux, Kafka, librdkafka, simdjson, Docker, Wireshark, Microservices, HDFS (Basic Familiarity), Git, GitHub, Postman, Burpsuite, Visual Studio Code, Sublime Text
Technologies/Frameworks: MongoDB, Express.js, React.js, Node.js, MySQL, REST APIs, Boost C++ (Basic Familiarity)
Computer Fundamentals: Data Structures and Algorithms, DBMS, OOP, Operating System, Computer Networks

Achievements / Participations / Leadership Roles

- Achieved highest rating of **1310 (Pupil)** on **Codeforces**.
- Attained highest rating of **1617 (3-Star)** on **Codechef**.
- Shortlisted among **150+ teams** in the internal hackathon round for **Smart India Hackathon (SIH)**.
- Delivered a **successful lecture** on Number Theory for Competitive Programming at a CP Bootcamp, receiving highly **positive feedback** and **strong engagement**.
- Active participant in coding contests across platforms like **Codeforces**, **Leetcode**, and **CodeChef**, as well as competitions like Meta Hacker Cup and ICPC, with a strong focus on problem-solving.
- Assumed leadership roles in **Google Developer Groups (on-campus)** and **the Association for Computing Machinery (ACM) Student Chapter**, organizing and conducting various college-level technical events.