

Apurba Sundar Nayak

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[Linkedin](#) [Github](#)

[Codeforces](#) [Leetcode](#)

EDUCATION

- **National Institute of Technology, Jamshedpur**

Master of Computer Applications; CGPA: 9.65

Courses: Operating Systems, Data Structures and Algorithms, Object Oriented Design, Artificial Intelligence, Networking, Databases

Jamshedpur, Jharkhand, India

August 2023 - June 2026

- **Ravenshaw University, Cuttack**

Bachelor of Science(Hons.) Computer Science; CGPA: 9.73

Courses: Operating Systems, Theory of Computation, Web Programming, Data Mining, Algorithms Design, Networking, Databases

Cuttack, Odisha, India

October 2020 - June 2023

SKILLS SUMMARY

- **Programming Languages:** C, C++, Java, JavaScript, TypeScript

- **Databases:** PostgreSQL, MongoDB, MySQL

- **Frameworks & Tools:** Node.js, Express.js, Prisma, WebSockets, JWT, Fast-CSV, Postman, Swagger/OpenAPI, Git, GitHub

- **Infrastructure & System Design:** Linux, Docker, RabbitMQ, Redis, Zookeeper, Azure, AWS

PROJECTS

- **eMotion - Microservices Based Ride Booking Application** (TypeScript, Node.js, MongoDB, RabbitMQ, Docker, Nginx): A scalable, event-driven ride booking system created using microservices architecture.

Links: [Live Link](#) | [GitHub Link](#)

- Engineered a scalable microservices architecture, deploying 20+ REST APIs to enable seamless **real-time** ride booking interactions between **users** and **captains** with high availability.
- Enabled reliable **asynchronous communication** between microservices using **RabbitMQ**, handling high concurrency and over 393 ride event checks with 73% success under peak load, ensuring consistent state transitions.
- Designed and implemented a low-latency **WebSocket notification system**, managing 300+ sessions with an average connection latency of **9.44ms**, ensuring instant ride status updates.
- Enhanced system reliability and performance, achieving > 94% success rate in ride start/end flows, cutting **API latency** to **11.4s avg**, identifying and resolving slow endpoints based on **95th percentile** reaching **50s** in worst case scenarios.
- Containerized all microservices with **Docker Compose** and deployed on **Azure VM**, utilizing **Nginx** for **load balancing** and **proxying**, achieving **99.9%** service decoupling.

- **DistroURL - Distributed URL Shortener** (TypeScript, Node.js, MongoDB, Redis, ZooKeeper, Docker, Nginx): A scalable and reliable URL shortening service constructed for low latency and high availability.

Links: [Live Link](#) | [GitHub Link](#)

- Architected a modular backend with 5+ RESTful APIs, leveraging service & repository layers for **Separation of Concerns (SoC)**, ensuring scalability and maintainability.
- Implemented a high concurrency **token generation** using **Apache ZooKeeper**, supporting **atomic range pre-fetching** with **1000K+** token buffers per node, achieving **race-free processing**.
- Enhanced **URL shortening performance** with **Redis caching**, achieving 219ms avg response time and **99% success rate**, improving request stability at scale.
- Validated system resilience via **1,105 API stress test iterations**, maintaining **1.36s avg response time** under **150 concurrent users**.
- Deployed using **Docker Compose** with **5 horizontally scaled** backend instances behind an **Nginx load balancer**, sustaining up to **500+** concurrent users while ensuring fault tolerance and seamless performance during traffic spikes.

HONORS AND AWARDS

- Awarded **Gold Medal** for academic excellence in B.Sc. Computer Science, ranking first across the State of Odisha.
- Secured Global Rank **84** in **CodeChef Starters 123** and **929th out of 21,000+** participants in **LeetCode Weekly Contest 448**, attaining peak ratings of **1342** in **Codeforces(Pupil)**, **1682** in **CodeChef(3-Star)**, and **1815** in **LeetCode**.
- Made **2000+** **GitHub contributions** over two years, reflecting consistent coding practice, hands-on project development, and commitment to improving software engineering skills.

VOLUNTEER EXPERIENCE

- **Training and Internship Coordinator at NIT Jamshedpur**

Aug 2024 - Present

Forged partnerships with companies to increase internship opportunities for over 300+ students

- **Joint Secretary at Society of Computer Applications, NIT Jamshedpur**

Nov 2023 - February 2024

Led initiatives to enhance technical and soft skills development of 100+ MCA students.