

# Apurba Sundar Nayak

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Linkedin Github  
Codeforces Leetcode

## EDUCATION

- National Institute of Technology, Jamshedpur** Jamshedpur, Jharkhand, India  
*Master of Computer Applications; CGPA: 9.65*  
*Courses: Operating Systems, Data Structures and Algorithms, Object Oriented Design, Artificial Intelligence, Networking, Databases*  
August 2023 - June 2026
- Ravenshaw University, Cuttack** Cuttack, Odisha, India  
*Bachelor of Science(Hons.) Computer Science; CGPA: 9.73*  
*Courses: Operating Systems, Theory of Computation, Web Programming, Data Mining, Algorithms Design, Networking, Databases*  
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.*