

Sumit Bhuia

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SKILLS

- Languages: C++, Go, TypeScript, JavaScript, SQL
- Systems & Distributed: Concurrency, gRPC, Redis Streams, Docker Sandboxing, Distributed Benchmarking
- Backend: Node.js, Express, REST APIs
- Databases: PostgreSQL, MongoDB, Redis, TimescaleDB
- Cloud & DevOps: Docker, AWS, Cloudflare, CI/CD

EDUCATION

Heritage Institute of Technology

Bachelor of Technology, Electronics & Communication Engineering

Cumulative GPA: 8.59 of 10.0

Relevant Coursework: **Data Structures, Algorithms, Database Systems, Operating Systems, Computer Networks,** Object Oriented Programming

Kolkata,IN

Jul 2026

EXPERIENCES

RnPsoft Pvt. Ltd., Software Engineer Intern

Jan 2025 - Apr 2025

- Engineered an AI-powered education management system using Next.js, PostgreSQL, Prisma, GraphQL, Redis, and AWS S3, integrating NextAuth and OAuth (Google, GitHub) to reduce login latency by 33%
- Optimized database performance through indexing and 3NF normalization, cutting query response times by 35%, and built an SMTP-based email flow with React Email for password reset and account recovery
- Rebuilt the platform's monitoring system in Python, achieving 41% lower CPU usage versus the prior JavaScript implementation, using efficient metric-collection libraries
- Adopted AI-assisted development workflows (Cursor, structured PRDs) to accelerate feature delivery by 25%, while collaborating with UX designers to ship mobile-first interfaces from Figma wireframes

PROJECTS

TradeBench: Distributed Trading Engine Benchmarking Platform

github.com/sumitbhuia/tradebench | [Demo](#)

Distributed platform benchmarking user-submitted trading exchange engines under concurrent load

- Led a 3-engineer team as architecture lead: designed the system, divided work, and drove the project to a 10th All India Rank finish among 21 finalists at IICPC Summer Hackathon 2026
- Architected a 4-service system (API gateway, sandbox engine, bot fleet, telemetry ingester) using gRPC for inter-service contracts and Redis Streams for asynchronous job queuing
- Designed the Docker-based sandbox security model for executing untrusted code: non-root execution, read-only filesystems, capability dropping, resource limits, and network isolation
- Ran code audits and frequent syncs across the team, catching and fixing integration bugs across the gRPC, Redis, and Docker layers before demo

GoDNS: High-Performance DNS Resolver

github.com/sumitbhuia/GoDNS

A concurrent DNS server built from scratch in Go to demonstrate core networking principles

- Engineered a non-blocking server architecture using goroutines to handle concurrent requests, achieving a benchmarked throughput of over 23,000 queries per second in a local environment
- Implemented the RFC 1035 DNS protocol, including binary message packing/unpacking and pointer-based label compression, to accurately parse and forward queries
- Worked on a comprehensive test suite with unit, integration, and benchmark tests to validate protocol compliance and measure performance, ensuring code quality and reliability
- Designed an asynchronous query propagation model to an upstream resolver, with logic for handling network timeouts and errors gracefully

Custom Linux Shell

github.com/sumitbhuia/shell

High-Efficiency Systems Programming Project

- Built a Linux shell in C++ supporting built-in commands (cd, pwd, echo, type, exit) and arbitrary external command execution via fork/execvp, with quote-aware argument parsing (single and double quotes)
- Designed heap-based tokenization to handle whitespace, nested quoting, and malformed input without crashing

ACHIEVEMENTS

10th All India Rank, IICPC Summer Hackathon 2026

Jun 2026

Advanced to the final 21 teams nationwide; led architecture design and team execution for TradeBench

Competitive Programming: [Codeforces handle : Bhuia](#) (Max Rating: 1239, Pupil)

Certificate of Appreciation, Innovative Ticketing & Registration Website Solution, IICChE CHEMCON

Dec 2023

EXTRA-CURRICULAR

Core Member, Google Developers Student Club

Aug 2024 - Jun 2025

Conducted engaging workshops on software engineering fundamentals, including object-oriented design and version control, equipped over 25 student developers with the skills to create robust applications that meet industry standards