NIKHIL LONDHE

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EDUCATION

Carnegie Mellon University (CMU) - School of Computer Science Pittsburgh, PA
Master of Software Engineering Dec 2025
Courses: Database Systems, Search Engines, Software Architecture, Quality Assurance, Software Project Management

University of Mumbai (MU) Mumbai, India
Bachelor of Engineering in Computer Engineering May 2019
Courses: Parallel and Distributed Systems, Distributed Databases, Operating Systems, Computer Networks

EXPERIENCE

Surefront (Audit Logging & Process Analytics Platform) | Team Lead Jan 2025 - Dec 2025
(CMU MSE Capstone Project - delivered with Surefront as a production feature in active use)

- Led a **6-engineer** team to architect a cloud-native **audit logging and process mining system** (Python, Django, ClickHouse) processing **60M+ event logs/day**, delivering real-time product change logs for executive clients.
- Built a **replicated event ingestion pipeline** by instrumenting a single request hook across an **800K-line codebase**, validating **<10 ms per-event latency overhead** via load and failure-scenario stress tests, cutting **root-cause analysis time by 99%.**
- Architected a **business analytics pipeline** with optimized schema and query paths, enabling **<1s aggregations** on **100M rows** and **99.9% uptime**, reducing time-to-insight from weekly to real-time.

Orah (Core Product Backend) | Software Development Engineer II Apr 2022 - May 2024

- Led a **4-engineer** team to **launch self-serve trial onboarding** (TypeScript, Node.js) with demo-data seeding, feature gating, and automated expiry and upgrade workflows, reducing manual trial setup effort by **100%.**
- Built a multi-tenant, cloud-native **recurring events engine** using an RRULE-based recurrence model with per-instance overrides and asynchronous processing across **500+ schools**, saving **11,600+ staff-hours**.
- Led a cross-team effort to ship **Student Information System (SIS) sync** APIs for Blackbaud by offloading updates to background workers and isolating integration logic from the core Events request path, processing **22K+ events/day**.

Larsen & Toubro Infotech (Engineering Productivity & Infrastructure) | Software Engineer Jun 2019 - Apr 2022

- Implemented **automated regression testing** for an internal testing platform (Java, Spring Boot), adding built-in coverage analysis, speeding up release cycles by **16%** for **10+** enterprise engineering teams.
- Improved test quality and adoption of internal testing platform, raising test coverage from **20% to 97%** and reducing post-release bugs by **60%** by enforcing coverage standards and streamlining testing workflows.

PROJECTS

Database Internals (C++) | Bustub – Database Systems | CMU Jan 2025 - Apr 2025

- Implemented **core DBMS internals**, including a thread-safe buffer pool (**8-thread contention-tested, 100K+ ops/thread**), a concurrent B+ Tree index (**10-thread insert/delete, 5K+ keys**), and a full query engine with joins, sorting, and aggregation.
- Constructed **MVCC concurrency control** ensuring ACID compliance and high-throughput transaction processing under contention, validated on **1M+** row datasets and randomized workloads.

Search Ranking & Retrieval Engine (Python) | Search Engine | CMU Aug 2024 - Dec 2024

- Developed a **search engine** from scratch with BM25, Boolean, fielded, and learning-to-rank pipelines; evaluated on 4 TREC-style datasets with **10K+** queries and **40+** ranked lists, with performance measured via MAP and α-NDCG.
- Engineered **multistage re-rankers** with BERT and Coordinate Ascent, **doubling** MAP, α-NDCG, and multi-intent precision by up to **120%** across diverse retrieval tasks, documented in a detailed evaluation report.

SKILLS

Programming Languages: C++, Python, Java, GoLang, TypeScript, JavaScript, SQL, Rust, C.
Frameworks & Libraries: Node.js, Express, React, Next.js, Angular, Django, Spring Boot, Jest.
Databases: PostgreSQL, MySQL, ClickHouse, DynamoDB, MongoDB, Redis, Elasticsearch.
Cloud & Infrastructure: AWS, GCP, Docker, Kubernetes, Terraform, Kafka, Spark, Airflow, Unix/Linux.
DevOps: Git, GitHub Actions, Jenkins, CircleCI, CI/CD, Datadog, SonarQube, Bash scripting.
Practices & Engineering: System Design, API Design, Data Structures & Algorithms, Testing, Observability (SLOs), Design Patterns.
Certifications: Certified ScrumMaster (CSM).

AWARDS & ACCOMPLISHMENTS

- LeetCode 1900+ rated | Top 4% | 1200+ problems solved. Dec 2025
- 3rd Place Winner - CITAP SITAC (National Software Architecture Competition). May 2025
- South Asia Regional Finalist, TopCoder Open Algorithm Competition. Apr 2021