Manish Biswal

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EXPERIENCE

- **Clickpe(yc w23) (sde intern)** — Remote
  As an sde intern — *dec 2025 – Present*
  - **SabPe**: Sole backend developer for SabPe — designed PostgreSQL schema, built 30+ serverless APIs in Deno, integrated multiple payment gateways, and deployed on Supabase & AWS Lambda
- **Google Summer of Code '25** — Contributor
  The Palisadoes Foundation — *Summer 2025*
  - **Project: Enhanced Notification & Chat System**: Designed an event-driven, template-based notification engine and per-user audience, deterministic audience resolution, and idempotent in-app delivery via composite keys.
  - **Implemented a resilient email channel using AWS SES v3**: transactional outbox + background queue with retry/backoff and rate-aware bulk send; wired dual-channel fan-out from domain events
  - **Chat-system**: Enhanced chat system performance by 60% optimizing Graphql subscription and apollo caching in the frontend
- **Open-source contribution**
  - **klavis-ai(yc x25)**: Built a Model Context Protocol(mcp) server for Google-meet
  - **palisadoes-foundation**: Authored and merged 30+ PRs which includes resolving critical xss bugs and developing presigned URL architecture

PROJECTS

- **KeyNest**
  C, HTTP REST, libmicrohttpd, POSIX pthreads, uthash
  - Designed and implemented a high-performance, log-structured key-value database engine in C .
  - Achieved **O(1)** key lookups using hash table indexing and optimized performance via memory-mapped file I/O and automatic data file consolidation.
  - Implemented a multi-threaded architecture with thread-safe concurrent access, background compaction processes.
- **Skii Chat: Secure P2P Video Communication Platform**
  WebRTC, STUN/TURN, Socket.IO, React
  - Developed a secure, fully-functional peer-to-peer video conferencing application leveraging WebRTC for real-time video/audio communication.
  - Implemented a progressive connection strategy with STUN/TURN fallback, achieving a 99.8% connection success rate across diverse network configurations, alongside advanced error recovery.
- **Skii (Agentic Bot)**: Built a Retrieval-Augmented Generation (RAG) Discord bot with vector similarity search (Qdrant, 768-dim embeddings) and Redis-backed session memory, orchestrating multi-model conversations via OpenRouter/Gemini; containerized services with Docker and optimized context routing.

TECHNICAL SKILLS

- **Languages**:C,Go,JavaScript/TypeScript,C++,Python .
- **Frameworks & Tools**:Node.js,Bun.js, React.js, Next.js, Fastify, NestJS, Websockets, GraphQL, gRPC, tRPC, BullMQ, RabbitMQ, Apache Kafka, Docker, Grafana, Prometheus, K6, Kubernetes, GitHub Actions, Jenkins, AWS, Nginx, WebRTC, Vitest, Cypress, Puppeteer, PyTorch,Langchain
- **Databases**: MongoDB, PostgreSQL, Redis
- **Other**: System Design, Microservices, DevOps, Machine Learning & Agentic-ai

ADDITIONAL

- **Algorithms and CS fundamentals**: Solved 150+ Ds questions across various platforms(leetcode & codeforces etc) with very strong foundation in fields like Operationg System and Computer networks
- **Competative Programming**: Pupil(max-1209) on Codeforces

EDUCATION

- **International Institute of Information Technology, Bhubaneswar** — CGPA 7.82/10
  B.Tech in Computer Engineering — *2023 – 2027*