

Sandeep Bist

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EDUCATION

UPES University

Master of Computer Applications (MCA)

Dehradun, India

Aug 2026

Amity University

Bachelor of Computer Applications (BCA)

Gwalior, India

Jun 2023

EXPERIENCE

Profound AI

Full Stack Developer

Remote

Oct 2023 – Jun 2025

- Delivered production-ready Web and Mobile applications as the primary developer, architecting and shipping the complete MVP from concept to customer launch within 8 months by building type-safe cross-platform codebases in **Next.js** and **React Native** with shared validation layers.
- Reduced mobile data consumption by **60%** (850KB to 340KB average payload), improving app responsiveness on 3G networks by implementing selective field filtering and GraphQL-style query patterns in **Node.js** API routes with **Zod** validation schemas.
- Eliminated **90%** of session crashes from network instability (measured via **k6** testing with 5,000 concurrent users), improving retention by architecting offline-first sync using **TanStack Query**'s optimistic updates and persistent mutation queues.

PROJECTS

GetFinalOffer: AI-Powered Talent Intelligence Engine | *Next.js, OpenAI, Supabase, Redis, BullMQ* |

- Architected three-phase search escalation protocol to eliminate zero-result queries, increasing candidate discovery by **3x** and achieving **2ms L1 hits, 20ms L2 search** by implementing CPU-inspired caching (L1: **Redis** exact cache, L2: Shadow Profiles with index intersection, L3: Multi-agent RAG with auto-threshold relaxation 0.32→0.10) and write-back learning caching complex queries.
- Engineered a cost-optimized ingestion pipeline to reduce OpenAI API expenses by **95%** (from \$200/month to \$10/month at scale), preventing redundant embedding costs through **SHA-256 delta processing** where resume re-uploads cost \$0.00, implementing **token minification** achieving 30% savings per request, and building evidence-based skill scoring that prevents keyword stuffing while maintaining atomic consistency using **PostgreSQL** transactions to eliminate blank profile states.
- Built high-throughput sync engine handling **1,000+ updates/sec** without database crashes, reducing write-lock contention by **98%** by implementing server-side debouncing with **Redis Sets** O(1) deduplication, 5-second heartbeat batching, and Shadow Profiles filtering millions of candidates in **Node.js** memory.
- Implemented production resilience achieving **99.9% uptime** under API failures and **100ms p95 latency** (validated via **k6** load testing) by architecting circuit breakers using **Opossum** (10s timeout, 50% error threshold), fail-open strategy, token-bucket rate limiting, and strict worker concurrency preventing N+1 cascades.

Redis-Compatible Distributed Key-Value Store | *TypeScript, TCP/Net, Systems Programming*

- Built a production-grade key-value store from scratch to understand distributed systems internals, implementing a custom **RESP Protocol Parser** over raw TCP sockets that handles binary stream fragmentation, pipelined command execution, and manual buffer allocation without external dependencies using low-level **Node.js** primitives.
- Achieved support for **50+ concurrent client connections** with sub-millisecond latency (measured via Redis benchmarking tools), maximizing I/O throughput by implementing a single-threaded non-blocking event loop architecture using **Node.js 'net' module** with efficient file descriptor multiplexing and asynchronous socket management.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python, Java, SQL, HTML5, CSS3

AI & LLM: LangChain.js, OpenAI API (GPT-4, Embeddings, Function Calling), Vector Databases (Upstash), RAG, Multi-Agent Systems

Frameworks: Next.js, React Native (Expo), React.js, SvelteKit, Tailwind CSS, Three.js

Backend & Systems: Node.js, PostgreSQL (pgvector), Redis, Supabase, BullMQ, Docker, AWS (S3), WebSockets, Event-Driven Architecture

DevOps & Testing: Playwright, k6 (Load Testing), Jest, GitHub Actions, Vercel, CI/CD

ACHIEVEMENTS

CodeCrafters Global Rank Top 30: Ranked **Top 30 globally** in TypeScript on **CodeCrafters**, demonstrating elite problem-solving capabilities in distributed systems, protocol design, and concurrent programming patterns.