Prashant Thapa

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Experience

Founder & Software Engineer **Aug 2026 – Present**

Blink | *Social app where you choose a mask or your real identity for every interaction* *Remote*

- Built Blink as its only engineer: a React Native (Expo) app for iOS and Android, a TypeScript API on Fastify, tRPC and PostgreSQL, background workers, and a photo and video pipeline: live on the App Store and Google Play.
- Cut the feed's cold open from 4–5s to near instant: disabled Postgres JIT (586 ms of overhead on an 85 ms query), cached feed candidates in memory (293 ms to 33 ms), and kept unseen posts on the phone so the feed opens even offline.
- Ran a security and privacy review before launch and fixed 32 of 35 findings, including all 3 critical ones (one revealed a masked post's author in four API calls); then locked every Supabase table behind row-level security, enforced by a test.

Software Engineer **May 2024 – May 2026**

Kaguya (case studies) | *Social books discovery and tracking platform, later pivoted to visual novels* *Remote*

- Joined as the first engineer and built the Next.js web app; later took sole engineering ownership across the backend (Elixir, GraphQL, Postgres), web, and iOS/Android, and led the pivot to visual novels. The books product reached 2,200+ users; launch posts drew 1.7K+ upvotes on r/webdev and 254 points and 211 comments on Hacker News.
- Eliminated recurring OOM restarts behind 10–20s navigation stalls. V8 heap snapshots exposed 14K request objects retained through Sentry scopes and Node timers; upgrading Sentry and the Next.js/Node stack stabilized production.
- Removed GraphQL and PostgreSQL bottlenecks from catalog discovery by batching per-book resolver lookups to eliminate N+1 queries and cutting a slow tag-filter path from 21s to 3–3.5s with specialized query paths and indexes.
- Reduced frontend CPU allocation by 50% by designing a hybrid Cloudflare/Apollo caching strategy that served catalog pages from the edge and overlaid personal ratings, likes, and shelves client-side.
- Built and open-sourced a recommender trained on 1.8M ratings; benchmarked seven algorithms, shipped EASE at 0.349 Recall@20 versus a 0.282 popularity baseline, and cut weekly batch runtime 10× with batched scoring.
- Built a catalog editor and revision system across five entity types with field-level diffs, full history, and restore; backfilled about 390K records, with advisory locking and stale-edit detection to protect user changes.

Full Stack Developer **May 2023 – May 2024**

Undef Studio *Remote*

- Built a multi-tenant CMS with Next.js, tRPC, and PostgreSQL, implementing role-based access control and tenant-scoped data access for multiple client accounts on shared infrastructure.
- Reduced image-matching costs by replacing AWS Rekognition with a DeepFace embedding and vector-search pipeline while maintaining comparable matching accuracy.
- Built an Electron desktop app that reliably processed 10K+ image uploads to Amazon S3, with pause/resume controls and exponential-backoff retries for unstable networks.

Projects

PycoDB | *Python, TCP, RESP2* **June 2026 – July 2026**

- Built a Redis-inspired in-memory database in Python using the `selectors` module and non-blocking sockets to multiplex multiple TCP clients on a single thread; implemented RESP2 parsing and pipelining, with `redis-py` compatibility for supported commands.
- Implemented strings, lists, sets, and sorted sets; sorted sets use a hash map and custom skip list for expected $O(\log N)$ insertion and rank queries. Added expiration on access and through periodic sampling, plus FIFO, random, and approximate-LRU eviction.
- Implemented WATCH/MULTI/EXEC optimistic transactions that abort when another client writes a watched key, channel-based Pub/Sub for broadcasting to connected subscribers, and restart snapshots that restore state across graceful restarts.

Technical Skills

Languages: TypeScript, JavaScript, Elixir, Python, SQL
Backend & Data: Node.js, Fastify, tRPC, Prisma, PostgreSQL, Supabase (Postgres, Auth), Phoenix, GraphQL (Absinthe)
Frontend & Mobile: React, React Native (Expo), Next.js, Apollo Client, Electron, Tailwind CSS
Infrastructure & Observability: Docker, GitHub Actions, AWS (S3, EC2), Cloudflare, Fly.io, Hetzner, Sentry, Grafana
AI Tools: Claude Code, Codex, Cursor, Claude Design

Education

Birla Institute of Technology and Science (BITS), Pilani **Expected 2029**

Bachelor of Science in Computer Science *Online*