

Kartikey Agrawal

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EDUCATION

BMS College of Engineering

B.E. Computer Science (Data Science) | CGPA: 8.42

Bengaluru, India

Oct. 2024 – May 2028

EXPERIENCE

Software Developer Intern

Jun. 2026 – Aug. 2026

Trinkerr | Django, DRF, PostgreSQL, Celery, Redis, React, TypeScript

- Engineered a full-stack Investment Poll Platform: DRF API (**30+ endpoints**, OpenAPI) + React 18 client.
- Designed polling workflows for investment surveys, letting **1,000+ users** take polls, submit responses and track real-time aggregated results in a client-ready interface.
- Hardened security with rotating JWT refresh tokens, token blacklisting, RBAC, rate limiting and revocable dashboard share links secured by **256-bit tokens**.

Social Media Manager & Web Developer Intern

Apr. 2026 – May 2026

Veynqor | US-based B2B startup

Remote

- Designed and built the company website; planned, wrote and published social media content for a B2B audience.

RESEARCH

Trace-Level Analysis of Correct-to-Incorrect Degradation in Small LMs | *Accepted, ICTCS 2026* Co-author

- Two-tier protocol separating what a forced-answer probe induces from what a model commits to; **210 traces** over DeepSeek-R1-Distill-Qwen-1.5B, Qwen2.5-3B and Llama-3.2-3B on GSM8K and MATH-500.
- Only 1 of 11** degradations (5.2%, Cohen's $\kappa = 1.00$) was genuine: the probe measures itself as much as the model.

Gearbox | Python, LiteLLM, MCP, Ollama

[Repo](#)

- MCP tool: agents delegate subtasks to cheaper models and accept results only after real tests pass; **95.7%** on HumanEval+ vs. 92.7% always-27B at **~1/3 the compute** (542 problems, 12 models).

PROJECTS

HostelMate | Next.js 16, Express 5, PostgreSQL, Redis, Socket.io, Docker, GitHub Actions

[Live](#) | [Repo](#)

- Sole engineer: designed the full architecture and shipped to production; CI/CD and Husky hooks run **260+ Jest and 59 Playwright E2E tests** on every commit, with an 80% coverage floor.
- Rotating HMAC-signed QR + Haversine geofencing (100m) validates token freshness and GPS atomically; browser-native liveness (EAR blink, frame-diff, 5-angle descriptors) stops spoofing at **zero API cost**.
- Redis Pub/Sub + Socket.io notification engine replaces polling; per-route RBAC, Supabase RLS per table and JWT auto-refresh give zero cross-tenant leakage by design.

StockSense | Next.js 16, FastAPI, PostgreSQL, pgvector, Redis, WebSockets, FinBERT

[Repo](#)

- IST-aware WebSocket pipeline streams live prices for **2,200+ NSE stocks**; zero API calls off market hours.
- 6-factor sector-relative ranking (P/E, ROE, D/E, net margin, CAGR, promoter holding) with a pgvector semantic layer; LangChain RAG over 400+ page IPO prospectuses surfaces risks in **under 30s**.

AI Meeting Intelligence | Python, FastAPI, Docker, AssemblyAI, Groq, Silero VAD

[Repo](#)

- Silero VAD → AssemblyAI diarized transcription (**6.67% WER** vs. 40% for Whisper Large-v3) → Llama 3.3 70B extraction via Groq into typed JSON with per-field speaker attribution.

TECHNICAL SKILLS

Languages: Python, C++, TypeScript, JavaScript, Java, SQL

Frameworks: Next.js, React, Node.js, Express, Django, DRF, FastAPI, Celery, Tailwind CSS

Data & AI/ML: PostgreSQL, pgvector, Supabase (RLS), Redis, PyTorch, Hugging Face, LangChain, LightGBM

DevOps & Testing: Docker, GitHub Actions CI/CD, Turborepo, Jest, Playwright

Concepts: Event-driven architecture, Pub/Sub, RBAC, JWT, RAG, System Design

ACHIEVEMENTS

Amazon ML Challenge 2026: Top 5% (rank ~1,800 of 35,000 teams; score 0.965)

Codeforces Specialist (max 1443) | 200+ DSA problems solved | **Harvard CS50x** Certificate

1st Place, UCMAS All Rajasthan Abacus Championship (2015)