

AYAN MUKHERJEE

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PROFESSIONAL SUMMARY

Product Developer and AI Systems Builder with experience shipping full-stack web applications, cross-platform mobile apps, and custom AI systems from concept to production. Inventor of PML (Personal Memory Language), a novel structured memory protocol for persistent AI context. Secured a paid software commission and led cross-functional teams in competitive hackathon environments. Combines technical depth across frontend, mobile, and AI with a strong background in cybersecurity and creative design.

WORK EXPERIENCE

AI/ML Lead & Team Lead — Google Developer Groups (GDG) Hackathon | 2025

- Spearheaded a 4-person cross-functional team to design and deliver Campus Connect — an AI-assisted indoor navigation PWA — within a 24-hour hackathon window, engineering an A* pathfinding algorithm with an AI floor-plan detection module for automated building-map generation.
- Orchestrated full-stack architecture decisions across React frontend, navigation logic, and AI module, producing a functional prototype demonstrated to a panel of industry judges.

Web Design Intern — Central Coalfields Limited (CCL) | 06/2025 - 08/2025

- Architected responsive, cross-browser web interfaces using HTML, CSS, and JavaScript; built reusable component libraries that reduced UI development time by approximately 30% across project deliverables.
- Collaborated with senior engineering stakeholders to translate design specifications into production-ready code, consistently meeting all sprint milestones and quality benchmarks.

PROJECTS

Runeeti — Commissioned Physical Education Platform — Client Project | 03/2026 - Present

- Architected a full-stack Flutter/TypeScript video course platform — including live streaming, on-demand playback, DPPs, and downloadable notes — commissioned for SSC GD, NDA, and Soldier GD physical examination preparation.
- Deployed an AI progress-tracking engine that monitors workout mileage, estimates macro-nutrient intake, enforces personalized training plans, and surfaces diligence through a gamified tiered achievement system to maximize long-term user retention.

Supercharge + PML — BYOK AI Chat Platform — Independent | 2025 - Present

- Engineered a production-grade Bring Your Own Key (BYOK) AI chat web application using React, TypeScript, and Supabase, enabling unified access to multiple LLM providers through a single interface.
- Invented PML (Personal Memory Language) — a custom structured memory-encoding protocol with RECALL syntax and tiered prompt injection — granting AI assistants persistent, hallucination-resistant context recall across sessions.

Steganography — File Security Web Tool — Independent | 2025

- Developed a full-stack web security tool enabling covert file-within-file encoding via steganographic techniques, with an integrated Trojan detection module that analyzes embedded payloads for malicious signatures.

EDUCATION

BSc Information Technology — Dr. Shyama Prasad Mukherjee University | 2022 - Present

- Relevant Coursework: Database Management Systems (DBMS), Management Information Systems (MIS), Data Structures & Algorithms, Object-Oriented Programming (OOP).
- Active member of GDG Ranchi Chapter; participant in inter-college hackathons and AI/ML developer community events.

SKILLS

Languages & Frameworks: HTML, CSS, JavaScript (JS), TypeScript (TS), Java, Dart, SQL, Flutter, React Native

AI & Systems: LLM Orchestration, Prompt Engineering, AI Memory Systems (PML), NLP Integration, Predictive Analytics

Backend & Tools: Supabase, Firebase, REST API Design & Integration, Git, GitHub, PWA Development

Design & Security: UI/UX Design, Motion Graphics (After Effects, Illustrator), Blender 3D, OWASP, CTF, Steganography

ACHIEVEMENTS & AFFILIATIONS

- Placed 13th in first-ever CTF cybersecurity competition hosted at WASP Cybersecurity Webinar, JRSU — applied OWASP vulnerability analysis and penetration testing techniques under competitive conditions.
- Secured a paid client commission to architect and deliver Runeeti, a production AI-integrated video platform, validating independent commercial software development capability.
- Recognized as AI/ML Lead at GDG Ranchi Hackathon; delivered a working cross-platform AI product within a 24-hour build sprint.