Abdoulaye Mbodj

267-891-0367 | pmbodj49@gmail.com | Pennsylvania | linkedin.com/in/ambodj | github.com/abmbodj

Education

Arcadia University Glenside, PA
Bachelor of Science in Computer Science *Aug. 2024 – May 2028*

- Vice President of Computer Science Club
- GPA: 3.6
- Relevant Courses: Data Structures and Algorithms, Client and Server Side Web Development, Computer Organization & Architecture, Calculus I

Experience

Lowicks Feb. 2026 – Oct. 2026
Software Engineering Intern *Remote*

- **Co-developed a private marketplace** landing page and admin dashboard that helped attract **100+ founding members**, using TypeScript, Hono SSR/JSX, HTMX, and Cloudflare D1 with JWT authentication, search, sorting, pagination, and CSV export.
- **Architected a cross-platform React Native app** for marketplace listings and offers, with OTP onboarding, sponsor-gated access, WhatsApp-integrated notifications, and an **AI concierge that reads marketplace listings to recommend, create, and book** for members over WhatsApp.
- **Built directly from CEO requirements** in weekly meetings with the founder and a US dev team, deciding UI, functionality, and architecture together, and **briefly led the US dev team**.

Information Technology Support Assistant Sep. 2024 – Present
Arcadia University *Glenside, PA*

- **Resolve 50+ support requests per week** for students, faculty, and staff by diagnosing and troubleshooting hardware, software, and network issues across campus.

Projects

Locy - Loc Journey & Care | *React Native, Expo, TypeScript, Supabase* Jun. 2026 – Present

- **Built and launched** an AI-powered loc-care iOS app, growing it to **700+ monthly active users and 100+ paying subscribers** with a **4.9/5 App Store rating**, featuring personalized care tracking, product guidance, photo progress journeys, and RevenueCat subscriptions.
- **Designed a persistent memory system for an AI companion** (**5,900+ messages across 1,400+ conversations**) using structured facts and rolling summaries, then shipped **hybrid vector + full-text retrieval** with RRF and recency weighting that **raised memory recall from 22.7% to 95.5%** on a 54-case eval (full-text alone: 68.2%), with **0/18 sensitivity violations** and 8/8 safety cases passed.
- **Improved production scalability and reliability**, reducing database load by **98.9%** and PostgreSQL errors by **99%** by redesigning Locy's notification infrastructure with batched scheduling, idempotent writes, and time-zone-aware SQL.

Riven — Student OS | *React, Supabase, Deno, TypeScript, PostgreSQL* Dec. 2025 – Present

- **Built a full-stack study platform** with React 19 and native iOS support via Capacitor, using **39 Deno Edge Functions and a 48-table PostgreSQL schema** for AI study tools, collaborative groups, spaced repetition, and gamified progress.
- **Shipped a hybrid RAG pipeline** (pgvector + PostgreSQL full-text search, reciprocal rank fusion, Gemini embeddings) with page and timestamp citations; on a 49-question eval set it **cut input tokens 70% and cost per request 67%** vs. full-context prompting and **raised strict citation accuracy from 61% to 100%**.
- **Instrumented every LLM call with per-request tracing** of tokens, latency, time to first token, and cost, and built an **LLM-judged eval harness** for correctness, citations, and refusals that caught a refusal-matching bug.
- **Built an AI tutor** that lets users study any material, and automated flashcard and exam generation from notes, PDFs, audio, and YouTube transcripts using a **multi-model LLM pipeline (Deepgram, GPT, Claude)** with **SSE streaming**, persistent jobs, and per-user rate limits.

Agent Island — Native macOS Monitor for AI Coding Agents | *Rust, Swift, Unix Sockets* Oct. 2026 – Present

- **Built a native macOS notch app** that tracks local Claude Code and Codex sessions through their official hooks, letting developers approve tool calls, answer agent questions, and **jump to the exact terminal tab** in one click.
- **Engineered a Rust core** with a session state machine, a local Unix-socket server, kqueue process watching, and a C ABI bridged to a Swift/AppKit shell, covered by **180 Rust tests** including end-to-end hook runs.

Technical Skills

Languages: Java, Python, C, C++, JavaScript, TypeScript, HTML, CSS, SQL
AI & APIs: OpenAI GPT, Claude, Gemini & OpenAI Embeddings, pgvector, RAG, Deepgram, SSE Streaming, WhatsApp, Stripe, RevenueCat
Frameworks & Libraries: React, React Native, Next.js, Node.js, Hono, HTMX, Deno, Bun, Flask
Databases & Tools: PostgreSQL, MySQL, MongoDB, SQLite, Supabase, Cloudflare Workers, Cloudflare D1, Git, GitHub, Vercel, GCP