

Amine Hamlouchi

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EDUCATION

University of Louisville, J.B. Speed School of Engineering

Louisville, KY

Bachelor of Arts in Computer Science; Minor in Arabic; GPA: 3.5/4.0

Expected May 2028

- **Relevant Coursework:** Data Structures, Algorithms, Software Engineering, Operating Systems, Database Systems, Python & Data Analytics; enrolled in Artificial Intelligence, Machine Learning, and Computer Networks.

TECHNICAL SKILLS

Languages: Python, Java, C, C++, JavaScript/TypeScript, SQL, Bash, HTML/CSS

AI/ML & Data: RAG (retrieval-augmented generation), LLM orchestration, prompt engineering, NLP / information extraction, ETL pipelines, FastAPI, pandas, NumPy, scikit-learn, model evaluation

Web & Systems: React, Next.js, Node.js, PostgreSQL, Supabase, SQLite, REST APIs, Docker, Vercel, GitHub Actions (CI/CD), Git, Linux, testing, documentation

EXPERIENCE

IT Analyst Intern

May 2026 – Present

Parker Hannifin

Jeffersonville, IN

- Support enterprise technology systems in an industrial environment by troubleshooting endpoint hardware, network connectivity, account access, applications, and user-support issues for on-site teams.
- Apply a software-engineering debugging approach to infrastructure incidents by isolating root causes, validating fixes, documenting repeatable steps, and escalating with clear technical context.
- Write PowerShell, Batch, Bash, and SQL scripts to automate routine diagnostics, endpoint configuration, and data lookups, cutting repetitive manual steps.

Technical Lead, Livestreaming & Digital Operations

2024 – Present

Alnur Mosque Islamic Center

Louisville, KY

- Lead livestreaming and digital operations for educational programs, coordinating camera, audio, and platform setup and troubleshooting live technical issues.
- Built and maintained Google Sheets trackers, event materials, and outreach workflows supporting volunteers, fundraising, sponsorships, and content distribution.

Software Developer / Internal Tools Developer

Jul. 2022 – Sep. 2023

King iPhones

Louisville, KY

- Developed internal inventory, pricing, and sales-tracking tools in JavaScript and Google Apps Script, replacing manual spreadsheet processes and improving operational visibility.
- Built an Electron/Node.js workflow for batch IMEI lookup, structured inventory updates, and repeatable business-process automation, reducing spreadsheet-based tracking errors.

PROJECTS

Argument Knowledge Base (RAG) | *Python, NLP, LLM Orchestration, REST APIs*

2026

- Built an end-to-end NLP pipeline transforming 32 multi-hour audio debates into a structured, citation-verified RAG knowledge base of 731 canonical arguments and 893 paired rebuttals (1,100+ citations) for LLM retrieval.
- Engineered a two-level fact-verification system validating 712 citations against 4 primary-source text APIs (existence + exact wording), auto-flagging mismatches and dropping unverifiable claims with full audit logging.
- Designed a map-reduce LLM sub-agent orchestration (8–12 parallel workers, stable-ID merge) with rate-limit-resilient acquisition (exponential backoff, caching) across an idempotent, checkpointed pipeline over ~1,000 records.

School Operations Platform | *TypeScript, Next.js, Supabase (Postgres), Vercel*

2026

- Designed, built, and launched a production bilingual (English/Arabic, full RTL) mobile-first school-operations platform serving 80 active users across admin, teacher, family, and student roles, replacing a year of manual spreadsheets with one PostgreSQL system of record.
- Built a TypeScript serverless backend (106 API routes, 15 Postgres migrations) spanning grading, attendance, scheduling, payroll, tuition ledgers, and online class queues; migrated and validated 9,600+ historical records across 223 class days.
- Engineered role-based access (4 roles plus capability overlays) with PBKDF2 password hashing, hashed HTTP-only session tokens, Postgres row-level security, and Supabase Realtime invalidation with polling fallback, covered by 51 automated regression tests.

Rumi: Roommate-Matching Platform (findyourrumi.com) | *TypeScript, Next.js, PostgreSQL, Vercel*

2026

- Founded and shipped a privacy-first roommate-matching web platform end to end (TypeScript/Next.js/PostgreSQL on Vercel), with a custom domain, design system, and a compliance-gated release architecture with environment-flag launch controls.
- Built a three-generation waitlist/onboarding system (double opt-in with hashed single-use tokens, 18+ validation, conversational UX) hardened via self-run security reviews (CSV-injection, rate-limit isolation, locked-down Postgres/RPC grants); designed and operated a multi-agent AI development system to ship it solo.