

DOW M. EDWARDS II

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Full-stack software engineer and U.S. Navy veteran building production AI/RAG systems and shipping customer-facing features end-to-end.

Primary Stack: TypeScript · React · Next.js · Python · FastAPI · Java · PostgreSQL + pgvector · GraphQL · Anthropic Claude API · Voyage AI · Shopify Hydrogen

PROFESSIONAL EXPERIENCE:

Knittrix — Founder & Lead Engineer · Remote · April 2025 – Present

Multi-tenant SaaS that ingests essential construction documents and answers project questions with sourced citations.

Stack: Next.js · TypeScript · FastAPI · Python · Postgres + pgvector · Voyage AI · Anthropic Claude · arq · Fly.io · Cloudflare R2

Product & Discovery

- Ran customer discovery with construction PMs and field engineers; identified RFI lookup as the highest-cost document workflow and scoped the MVP around it
- Owned roadmap, release planning, and scope tradeoffs across 18+ tagged production releases
- Designed the citation UX so every AI answer ships with a clickable source — the trust layer that closed early customer conversations

Engineering

- Built the document Q&A pipeline end-to-end: PDF extraction → semantic chunking → embeddings (Voyage voyage-3-lite) → tenant-scoped vector retrieval → Claude-generated answers with inline citations
- Cut chunk-rebuild stage from **26.7s** → **1.6s (94% faster)** by offloading blocking work to async render coordinators
- Reduced full-document end-to-end processing from **10:22** → **3:04 (~70% faster)** on reference fixtures
- Built a model-tier router that classifies queries by complexity and routes Haiku / Sonnet / Opus per request, **cutting LLM spend ~62%** with no measurable quality regression on the eval harness
- Built automated quality scoring for retrieval and answer accuracy so regressions are caught before deploy
- Enforced strict tenant + project isolation on every Postgres + pgvector read/write — table-stakes for multi-tenant SaaS

EFH Solutions — Full-Stack Software Engineer · Remote · May 2024 – Present

Stack: React · Next.js · TypeScript · Shopify (Liquid · Hydrogen · Storefront API) · FastAPI · Python · PostgreSQL

Featured Client — **Yeezy** (global apparel & footwear)

- Led the **August 2025 re-platform** of Yeezy.com: migrated key product surfaces from a Liquid-templated Shopify theme to a **headless Next.js + Shopify Hydrogen + Storefront API** architecture, decoupling the storefront from Shopify's default chrome to support a fully-custom buying experience
- Engineered **drop-launch infrastructure** for limited releases — edge-cached product pages, queued checkout entry, and Storefront API rate-limit handling — sustaining traffic spikes of **~12x baseline** across multiple post-relaunch drops with zero downtime
- Cut mobile **Time-to-Interactive** from **~3.4s** → **~1.1s** via image-pipeline tuning, edge caching, and route-level code-splitting on the headless storefront
- Lifted mobile checkout completion **~18%** by tightening the custom checkout flow and reducing form friction

Other Engagements

- Architected and deployed end-to-end applications across frontend, backend, and infrastructure for client engagements; CI/CD gating, automated testing, and staged rollouts
- Owned code quality through PR review, shared standards, and CI gates across the team

Airbnb — Associate Software Engineer, Command Hub · Remote · April 2023 – January 2024

FE: React · TypeScript · GraphQL · Apollo · Linaria · Airbnb DLS · Storybook · Jest · React Testing Library | **BE:** Java 17 · Apache Thrift · Gradle · Spotless · Airbnb internal service framework

Selected for **Airbnb Connect** — Airbnb's selective full-stack engineering apprenticeship — and shipped **full-stack** production features on **Command Hub**, the internal entity-management surface used daily by Airbnb's global operations teams.

Production Work — Command Hub

- **Favorite Entity (star/unstar)** — designed and shipped end-to-end across React + Apollo (optimistic GraphQL mutations, persistent client state) and Java/Thrift services, eliminating a repetitive manual lookup ops teams ran dozens of times per shift on high-traffic entities

- **Project Hierarchy** — architected a nested folder organization system, including the GraphQL schema, Java/Thrift service mutations, and React tree-render components; replaced a flat entity list that had become unscalable, unblocking ops users managing thousands of entities at once
- **Error-handling redesign** — converted silent failures across critical Command Hub flows into recoverable, actionable errors, letting operators self-serve recovery instead of escalating to on-call engineering
- **Reusable component library** — authored React + Linaria components and hooks adopted by adjacent Command Hub surfaces, cutting duplicate UI code and tightening consistency with Airbnb's **Design Language System**
- Drove every feature through the **full lifecycle**: product spec with PMs and designers → GraphQL schema + Thrift service design → frontend implementation → staged rollout → post-launch monitoring

Connect Apprenticeship — Capstone Projects

Frontend Capstone — Host Listings Dashboard

- Built a host-facing dashboard for managing Airbnb listings (create, edit, delete, filter) with **React + TypeScript + Linaria**
- Integrated **DLS** components and authored **Storybook** stories with variation providers for design review and visual regression
- Wrote unit and integration tests with **Jest + React Testing Library**, clearing the CI 50%+ coverage gate
- Implemented WCAG-compliant accessibility, validated with **VoiceOver** screen-reader testing and keyboard-only navigation
- Integrated Airbnb's real earnings_estimate API endpoint with async loading and error states

Backend Capstone — Java/Thrift Service

- Built a Java 17 microservice on Airbnb's **paved-road** stack: **Apache Thrift**-defined endpoints, **Gradle** builds, **Spotless** linting, IntelliJ + AirDev tooling
- Implemented relational database persistence and concurrency-safe request handling using Java's concurrency primitives
- Authored unit and integration tests per Airbnb's backend testing standards
- Demoed the service end-to-end at the program's final presentations

DXC Technology — Technical Computer Operator · Remote · *January 2022 – April 2023*

Stack: IBM Z-series · TPF (Transaction Processing Facility) · z/OS · JCL · CICS · 3270 / TN3270 · MainView · OmegaMon · NetView · ServiceNow · ITIL

- Operated **IBM Z-series mainframes** running **TPF** for **American Airlines' Sabre** Passenger Service System — processing millions of **PNR** (Passenger Name Record) transactions per day at sub-second latency
- Executed and monitored batch workloads via **JCL** and enterprise scheduling (overnight reservation reconciliation, end-of-day settlement, financial postings) across multiple production LPARs
- Drove production health monitoring with **MainView**, **OmegaMon**, and **NetView** — tracking CPU utilization, DASD performance, CICS region availability, and TPF transaction queue depth; escalated anomalies before they reached customer-facing flows
- Issued TPF console commands and navigated operator screens via **3270 terminal emulators** (TN3270 / IBM Personal Communications), executing runbook procedures during incidents and scheduled maintenance windows
- Coordinated **ITIL-aligned incident and change management** in ServiceNow — partnered with TPF assembler / SHARES developers and routed issues with diagnostic context (transaction traces, memory dumps) when application-layer fixes were needed
- Reduced **mean time to recovery** on critical batch jobs by tightening runbook ownership and automating repetitive operator workflows
- Built direct, hands-on familiarity with the unique constraints of TPF — single-process architecture, in-memory database, fixed-record blocking, and assembler-era performance budgets — the kind of mission-critical legacy infrastructure most modern engineers never touch

ADDITIONAL EXPERIENCE:

United States Navy — Hospital Corpsman · Portsmouth, VA · *Dec 2012 – Jun 2016*

- Trained and supervised 17 personnel in a high-tempo medical environment
- Implemented a vaccine-tracking system that **reduced end-of-month budget variances by 30%**
- Accountable for \$100,000+ of medical inventory daily; selected by senior leadership for expanded responsibilities

EDUCATION:

Operation Spark — **Hack Reactor**, New Orleans, LA | IBC Fundamentals of JavaScript, Functional Programming, and Web Development, Level 3 — *September 2022*