

# Robert Sean Harry

AI Engineer · Senior Full-Stack Engineer

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## SUMMARY

AI Engineer and Senior Full-Stack Engineer with 9+ years of experience and a year of production LangChain/LangGraph agentic systems shipped to paying users. Designed and operated multi-tool LLM workflows on Azure OpenAI with Pinecone hybrid (semantic + keyword) retrieval, token budgeting, streaming, and human-in-the-loop drafting — wrapped in a FastAPI backend, React/TypeScript web app, and React Native mobile client. Proven track record leading engineering teams, owning AWS infrastructure end-to-end, and shipping API-driven integrations across cloud, payment, identity, and notification providers. Veteran of the US Navy. **Proficient in:** LangChain, LangGraph, Pinecone, Azure OpenAI, Python, FastAPI, Django, TypeScript, React, React Native, Redux Toolkit / RTK Query, AWS (ECS Fargate, S3, Textract, CloudWatch), Kubernetes, Docker, Celery, Redis, PostgreSQL, MySQL, SQLAlchemy 2.0, Alembic, Stripe, RevenueCat, Firebase, Supabase, Sentry, Vercel, GitHub Actions, Jira, Airtable, and Cypress.

## EXPERIENCE

**VeteranAI** — Remote

February 2025 – May 2026

**Senior Full-Stack Engineer**

- **AI-Powered Claims Assistant:** Designed and shipped agentic LLM workflows on LangChain/LangGraph backed by Azure OpenAI and Pinecone hybrid (semantic + keyword) retrieval, with 18+ purpose-built tools spanning medical literature, the VA regulatory corpus (M-21 + 38 CFR), and per-user document context — powering Six, an AI assistant that drafts personal statements, layman/buddy statements, and nexus letters from a veteran's symptoms, treatments, and service history, reducing time-to-draft by an estimated 60%.
- **VA.gov Dual-OAuth Integration:** Architected and built end-to-end integration against the VA benefit-claims and veteran-verification APIs — two separate OAuth flows with different scopes, token lifetimes, and consent gates requiring coordinated state management — including async-task polling for service history and disability ratings sync, plus full submission flows for Form 21-0966 (Intent to File) and Form 21-526EZ (Disability Compensation) with digital and manual paths. Delivered and validated in the development environment; production launch pending VA third-party approval at time of departure.
- **LLM Production Infrastructure:** Built the supporting infrastructure for token budgeting, per-feature usage quotas, streaming responses, and stateful multi-turn conversations via LangGraph PostgreSQL checkpoints, plus a regulatory ingestion pipeline (Selenium + html2text + versioned manifests) that scrapes, parses, and embeds VA M-21 manual chapters and 38 CFR sections into Pinecone for incremental sync without re-processing identical content.
- **Multi-Platform Product Delivery:** Shipped a unified veterans' disability-claims platform across a FastAPI/Python backend, React 18 + TypeScript web app deployed on Vercel, and a React Native 0.84 (bare CLI) iOS app published to TestFlight, contributing over 500 commits across the three codebases.
- **In-App Purchase & Subscription Platform:** Designed and shipped the production monetization stack — Stripe Checkout for web, RevenueCat-mediated StoreKit 2 IAP for iOS (Pro Monthly with 14-day trial, Pro Annual), and Apple/RevenueCat webhook handlers reconciled against a Stripe-first / RevenueCat-fallback resolution path with an idempotent event log — meeting Apple 3.1.1/3.1.2 compliance and cutting subscription state drift to near zero across web and mobile.
- **Frontend Architecture Migration:** Led a vertical-slice refactor of the React web app into 20 domain-owned modules (auth, disabilities, va-form, chat, documents, nexus-letters, organization, referrals, walkthrough, etc.), each owning its own RTK Query slices, hooks, components, and pages — improving onboarding time for new contributors and reducing cross-domain coupling by an estimated 40%.
- **React Native Design System:** Built a custom Liquid Glass design system (GlassCard, AnimatedBackground, CustomTabBar, custom gesture-driven severity slider) on react-native-reanimated v4 and gesture-handler, with 36 reusable components spanning 18 screens, delivering an iOS-26-inspired look without third-party UI kits.
- **Native Speech & Accessibility:** Integrated on-device speech-to-text (iOS SFSpeechRecognizer / Android SpeechRecognizer) and text-to-speech (AVSpeechSynthesizer / Android TTS) into the chat experience with pause/resume, utterance tracking, and a patched 5-second silence timeout — adding hands-free input/output for veterans with visual or motor impairments at zero per-request API cost.
- **Organization & VSO Portal:** Built a multi-tenant org/VSO experience on top of the consumer product — admin layout, team management, veteran directory, payment-gated routing, and a two-phase Power-of-Attorney workflow integrating DocuSign eSign for digital signature — enabling Veterans Service Officers to manage caseloads of claimants in-app.
- **Background Jobs & Notifications:** Stood up the production notification system on Firebase Cloud Messaging with a device-token registry, per-user preference model, and Celery + Redis task workers (split across celery and pipeline queues) for symptom reminders, document ingestion, webhook fan-out, and scheduled VA data syncs, with Flower for observability.
- **Cloud Infrastructure & CI/CD:** Owned the AWS deployment story — ECS Fargate for the FastAPI service and the regulatory-sync worker, S3 + Textract for OCR document ingestion, CloudWatch + Sentry for observability — driven by GitHub Actions pipelines (Vitest + Vite build for web, pytest for the API, Xcode 16 archive + TestFlight upload for iOS via App Store Connect API keys), reducing release cycles from ad-hoc to multi-times-per-week.
- **Referral & Acquisition System:** Designed and shipped an end-to-end referral program — code generation, attribution capture, reward calculation engine (badge\_5, pro\_1\_month, pro\_annual milestones), Celery-driven reward distribution, and a share command center in both web and mobile clients — adding a measurable acquisition channel without paid marketing spend.

## Staffwerk

September 2024 – February 2025

### Lead Full-Stack Engineer

- **Leading Engineering Operations:** Spearheaded the engineering team, driving the development and enhancement of a Django/Python REST API, React Admin Panel, and React Native mobile app, resulting in a 20% improvement in application performance.
- Developed automated workflows in Airtable to connect disparate data sources, enabling seamless syncing of records across departments and creating new consolidated views for enhanced cross-functional visibility.
- Leveraged Airtable's REST API to integrate with external applications, facilitating data transfer and transforming raw inputs into actionable data, accessible in customizable dashboards and filtered views.
- Designed advanced Airtable bases with calculated fields and linked records, allowing teams to derive insights from interconnected data sets and visualize key metrics in new, context-driven layouts and views.
- **Cloud and Containerization Management:** Managed AWS, Kubernetes, MySQL DB Management, and Docker for hosting and containerization, reducing deployment times by 25% and significantly enhancing system reliability.
- **Successful Project Turnover:** Took charge of a critical project turnover after the previous development company failed to meet deployment deadlines. Successfully launched the application on both iOS and Android platforms using CI/CD pipelines with GitHub Actions, ensuring seamless functionality and user experience.
- **Financial Systems Integration:** Integrated QuickBooks and a comprehensive timesheet feature into the application, utilizing Python for backend processing and data synchronization, streamlining financial management and payroll processing, and reducing payroll errors by 30%.
- **Geolocation and Shift Management:** Developed a robust geolocation tracking system for workers using the Maps SDK and React Native, improving shift management accuracy and operational efficiency. Enabled real-time location tracking, route optimization, and automated shift scheduling.
- **Automated Shift Notifications:** Implemented a system to send out shifts to workers through push notifications and SMS, using Twilio and Firebase Cloud Messaging (FCM), allowing them to accept assignments and receive payments promptly, improving worker satisfaction and reducing shift fulfillment time by 40%.
- **Automated Invoicing System:** Created an invoicing system using Django and Celery that generates client invoices within 24 hours of shift completion, accelerating the billing process and improving cash flow management.
- **Admin Panel for Live Updates:** Integrated an admin panel within the Django REST API to allow real-time updates and changes to the app's settings and features, facilitating immediate deployment of updates and improving administrative efficiency.
- **Performance Monitoring:** Implemented monitoring and logging using AWS CloudWatch and ELK stack (Elasticsearch) to track application performance, identify issues, and ensure system reliability.

### Vision Media — Carlsbad, CA (Contract–Project), Remote

November 2022 – September 2023

#### Lead Full-Stack Software Engineer

- Developed and deployed over 15 key features using React, Ionic, Vue, Coffeescript, MySQL, and PHP, resulting in a 25% improvement in project efficiency and functionality.
- Led cross-functional collaboration with owners and managers to deliver 10+ critical features, improving customer satisfaction by 20% and reducing feature delivery time by 15%.
- Built automated record syncs across multiple Airtable bases to maintain data consistency, creating unified, real-time data access points for various teams and improving overall project transparency.
- Implemented Airtable scripting to auto-generate custom reports, organize raw data into categorized outputs and enabling stakeholders to access tailored insights directly from linked views.
- Configured Airtable automations to streamline task assignment and notifications, transforming workflows by triggering updates based on data changes and ensuring timely responses across collaborative projects.
- Efficiently resolved over 100 tasks assigned via JIRA and internal ticketing systems, reducing the project backlog by 30% and ensuring timely feature releases.
- Designed and implemented a DRM security feature that displays the logged-in user's name on the screen during unauthorized recording, enhancing content protection by 40%.
- Facilitated strategic brainstorming sessions with business managers, resulting in the identification and implementation of 5 new project methodologies that improved goal alignment by 20%.
- Managed and optimized AWS instances for Dev, Test, and Production environments, including S3 content management, building and maintaining content delivery pipelines, and deploying instances, reducing deployment time by 25%.

### Carvana — Los Angeles, CA, Remote

February 2021 – November 2022

#### Lead Senior Software Engineer

- Primarily developed UI components and API contracts for online applications using React, Typescript, and C#, increasing application performance by 30%.
- Reviewed and validated code structures, enhancing security and ensuring compatibility across browsers, devices, and operating systems, reducing bugs by 25%.
- Developed complex routing, navigational, and scheduling features for a dashboard application using C#, React, Redux, Typescript, and GraphQL, improving user navigation efficiency by 20%.
- Created and contributed to an internal React and Typescript library for UI components, commonly used functions, and styles, increasing development speed by 40%.
- Managed AWS production instances for market operations management, optimizing instance performance and reducing downtime by 20%.
- Tracked and completed over 200 JIRA tickets based on management guidance, ensuring timely delivery of project milestones.
- Paired with fellow engineers to brainstorm ideas, debug problems, and review code, fostering a collaborative and efficient team environment.

## Dapper Labs — Los Angeles, CA (Contract–Project)

January 2020 – January 2021

### Lead Full-Stack Engineer

- Developed complex systems using Python, GoLang, React, and C++, resulting in a 25% increase in system performance.
- Followed and supported change management practices and internal controls standards, improving process efficiency by 20%.
- Created and maintained 3D models and other art components, enhancing the visual appeal of projects by 30%.
- Developed powerful Content Management Systems and Voting Tools for client interfaces, increasing user engagement by 40%.
- Assisted in creating and maintaining a learning sandbox for users to learn contract creation, minting NFTs, and trading, boosting user retention by 25%.
- Collaborated with in-house web designers to create sleek and innovative UI designs, improving user satisfaction by 20%.
- Managed more than 2 projects per year from initial research to implementation, ensuring timely project completion and client satisfaction.

## Blizzard Entertainment — Austin, TX (Contract)

May 2018 – January 2020

### Full-Stack Engineer

- Developed complex systems using Python, React, Jade, and C++, enhancing system functionality by 30%.
- Followed and supported change management practices and internal controls standards, ensuring compliance and reducing operational risks by 20%.
- Created powerful Content Management Systems for project managers and low-code/low-tech peers to deploy landing pages, reducing deployment time by 25%.
- Collaborated with in-house web designers to create sleek and innovative UI designs, increasing user engagement by 20%.
- Managed more than 2 projects per year from initial research through testing and implementation, ensuring successful project delivery and client satisfaction.

## Harris Media — Austin, TX

May 2016 – May 2018

### Full-Stack Engineer

- Developed from scratch themes for websites using React, Javascript, Liquid, PHP, and Ionic/PhoneGap, improving website functionality by 30%.
- Created and maintained technical documents and SOPs for applications developed, ensuring clear communication of technical specifications and operation methods.
- Maintained 3 independent powerful Content Management Systems/Customer Relationship Management software for organizations in the oil, finance, and politics industries, increasing system reliability by 25%.
- Collaborated with in-house web designers to create sleek and innovative UI designs for web, mobile, and hybrid applications, enhancing user experience by 20%.
- Completed JIRA and Airtable tickets while helping layout roadmaps and stories for project scopes, ensuring timely project completion and clear project direction.

## EDUCATION

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### University of Texas at Austin — Austin, Texas

May 2016 – December 2016

Certification: Computer Science

## AWARDS & SERVICE

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- 10th Planet Jiu Jitsu Amateur MMA Fighter
- USA Cycling Novice Cyclist
- Brown Belt in Taekwondo under ATA Federation
- Engineer of the Quarter at Carvana
- Veteran, US Navy (2013–2016)

## PROJECTS

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Lil' Miquela — Brud / Dapper Labs: Digital media personality created with Unreal, Python, and Maya.

## LANGUAGES

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English · Some Spanish