

Jake Swinford

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WORK EXPERIENCE

Amazon

San Diego, CA

Software Engineer

Apr. 2025 – Present

- **Technologies:** Java, Kotlin, TypeScript, Python, AWS
- Engineer on the Payment Risk Engineering team, working on the Internal Action Taking System, which enforces payment fraud decisions on 80M+ orders a day.
- Architected an autonomous on-call agent on Amazon Bedrock AgentCore and Strands that investigates each ticket across code, deploy history, and telemetry, reports the root cause with evidence, and opens a fix pull request through normal review and CI.
- Developed and own the action execution layer that closes fraudulent accounts, cancels orders, sanitizes taken-over accounts and their sessions, and places customers into restricted store experiences, driven by fraud and account-takeover signals.
- Designed and shipped Moderated Enforcement, which restricts individual capabilities (e.g., blocks purchases but keeps Prime Video) instead of locking the whole account, so legitimate customers keep access while they appeal.
- Surface each action to the customer on the cart and order pages, among the highest-traffic pages in the Amazon store, explaining what was restricted and routing them into the appeal flow.
- Onboarded Amazon Leo (formerly Project Kuiper) onto payment risk by adapting existing fraud-prevention systems to its launch requirements, in time for its go-to-market deadline.

Idaho National Laboratory

Idaho Falls, ID

Software Engineer, DOE Q Clearance

Jan. 2024 – Apr. 2025

- **Technologies:** Python, TypeScript, Next.js, Docker, Kubernetes, Azure, Airflow, PostgreSQL
- Engineer on the Scientific Computing and AI team, focused on DeepLynx, an open-source ontological data warehouse for digital twins.
- Redesign DeepLynx's ingestion system around a multi-worker architecture, processing datasets 5x faster and more reliably for researchers across 12+ national labs.
- Batched record processing into one PostgreSQL transaction per 10 records, replacing a transaction and up to three lookups per record with one of each per batch.
- Created a metadata indexing service for a 100PB object store that unified data ingestion protocols across the national lab network, letting scientists discover and access previously siloed datasets.

IBM

Baton Rouge, LA

Software Engineer

Jun. 2023 – Jan. 2024

- **Technologies:** Java, Spring Boot, Kubernetes, Kafka, Docker
- Engineer on the MaaS360 platform, IBM's unified endpoint management solution for mobile device security and corporate device management.
- Migrated critical device management services from a monolith to Spring Boot microservices with CI/CD pipelines, enabling independent scaling and faster deployment of security features.
- Built real-time Kafka streaming pipelines for device telemetry and security events, which the platform uses to assess device risk and detect mobile threats such as malware, phishing, and network attacks.

University of Texas at Arlington

Arlington, TX

Undergraduate Research Assistant

Jan. 2021 – Dec. 2021

- **Technologies:** LabVIEW, Python
- Built a LabVIEW application for semiconductor measurements, cutting sample time from hours to minutes across 50+ weekly measurements.

EDUCATION

University of Texas at Arlington

Arlington, TX

Bachelor of Science in Physics

Dec. 2022