

NIF WARD

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Summary

Staff security engineer with 12 years of experience specializing in identity infrastructure, authorization systems, and secure-by-default frameworks. Deep expertise in OIDC/OAuth 2.0, PKI, secrets management, and policy engines (OPA/Rego). Proven track record designing and building high-leverage security platforms that protect billions of customer records while enabling developer velocity. Passionate about making the secure path the easy path.

Experience

Security Tech Lead / Manager, Data Security Foundations & IDInfra Aug 2024 – Present
Block *Remote*

- Founded Data Security Foundations team from scratch, including chartering, hiring, and establishing working agreements with data platform teams across business units.
- Architected and led migration of 1,000+ Snowflake workload users from static credentials to OIDC-based authentication, eliminating credential rotation burden and strengthening security posture across all data platforms.
- Designed Block-wide data security strategy unifying identity and access controls across heterogeneous data systems, establishing reusable security primitives that scale across business units.
- Built secure-by-default frameworks for data platform teams, providing high-leverage security capabilities that address entire classes of access control problems.

Security Tech Lead Manager, Machine Learning/Data Science Platform Jan 2023 – Aug 2024
Cash App (Block) *Remote*

- Founded security engineering team for 400+ engineer MLDS organization from scratch, including chartering, hiring, and evolving team scope through multiple reorgs while remaining hands-on as engineer and architect.
- Designed and implemented GitOps-based authorization workflow enabling time-bound, auditable access to billions of rows of PII in Snowflake, achieving 90% reduction in broad data access while maintaining developer productivity.
- Led development of performant application-layer encryption and data governance framework for ML event publishing across 71 high-volume Kafka topics, encrypting 100% of data in flight for fundamental app features.
- Built security consultation practice and reusable tooling, introducing security and data governance workflows that drove undocumented data sharing to zero.

Senior Security Software Engineer Aug 2021 – Jan 2023
Cash App (Block) *Remote*

- Led technical strategy for multi-year authentication services migration: decomposed 60 monolithic APIs (PINs, email/phone linking, device identity) into secure microservices handling thousands of TPS.
- Designed and implemented TOTP authentication for Cash App Taxes, delivering 6 weeks ahead of schedule and serving 1.1M tax filers during tax season.
- Operationalized Cash Policy Engine (OPA/Rego) for fine-grained authorization, enabling smoother, more frequent, and more predictable policy deployments restricting PII access for thousands of internal employees.
- Enhanced user privacy in contact syncing APIs by mitigating contact stuffing attacks, adding an order of magnitude to attack costs and reducing exploitable surface by 80%.
- Led discovery and formalization of account security model with cross-functional stakeholders including CCO, creating foundation for product security improvements.

Security Software Engineer May 2019 – Aug 2021
Amazon *Seattle, WA*

- Built OIDC client library with local token introspection for existing OAuth implementation, reducing authorization latency by 90% for performance-sensitive retail applications.

- Designed identity federation solution enabling legacy authN/Z for 10,000+ internal services on ephemeral runtimes (Fargate, Lambda), reducing migration costs by an order of magnitude for critical teams.
- Tech lead for privileged security remediation project addressing vulnerabilities across 50K applications in the Retail ecosystem.
- Led operational excellence for tier-0 authentication services, achieving 99.99% uptime over 3 years of high-velocity retail peak events.
- Mentored 3 engineers on secure coding practices, software architecture, and leadership skills, leading to their promotions within 2 years.

Software Engineer

Sep 2016 – May 2019

Amazon

Seattle, WA

- Led security reviews and threat modeling for Knowledge Tech organization of 30 engineers, mitigating risks to confidential information and teaching security best practices.
- Designed and implemented internal search ingestion service using Python (Flask) and AWS, indexing 5M content artifacts from 6 internal tools to increase discoverability of engineering resources.
- Architected secure large-scale live event streaming stack using Ruby on Rails, enabling 100Ks of employees worldwide to securely access livestreaming content.

Software Engineer

Mar 2014 – Aug 2016

CardinalCommerce

Mentor, OH

- Designed and built Java/Spring REST API and client library for auditing billions of transactions across distributed payment systems, improving partner relationships and providing observability into transaction flows.
- Built mobile payment platform features for partners and customers using Twilio and Google APIs, driving value across hundreds of whitelabeled applications.
- Introduced version control best practices to team of 5, leading to 10% reduction in deployment failures.

Open Source Intern (Outreachy)

Dec 2013 – Mar 2014

Mozilla

Remote

- Implemented B-tree support for extension library in Rust, contributing to systems programming while learning memory safety and functional programming best practices.

Technical Skills

Identity & Authorization: OAuth 2.0, OIDC, SAML, PKI, HOTP/TOTP, OPA/Rego, fine-grained access control, secrets management, service authorization

Security: Application-layer encryption, data governance, threat modeling, secure-by-default frameworks, security architecture

Languages: Python, Java, Kotlin, TypeScript, Go, Rust

Infrastructure: AWS, GCP, Kubernetes, Terraform, Snowflake, Kafka, GitOps, Buildkite, GitHub Actions

Education

Bachelor of Arts in Computer Science – Oberlin College, Oberlin, OH

Amazon Machine Learning University – Foundational Modules

Leadership & Community

Security Champions Coach • Engineering Values Working Group • Promotion Calibration Committee Chair • Womeng Arrays • cash-mentorship