Jessica Hamilton

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EXPERIENCE

Amazon Web Services (AWS) DynamoDB — Seattle, WA
Software Engineer — *January 2023 – Present*

- **Metadata Cleanup Sweeper**: Engineered scalable sweeper for a critical metadata table, safely reducing 1.1M entries to 100K; cut replication delays and consistency checks from 6h to 5m without throttling customer operations.
- **Replication Metadata Trimming**: Designed and implemented trimming of replication metadata for multi-region customer tables, reducing storage by 57% while honoring EU "right to be forgotten" requirements and avoiding impact to ongoing replication.
- **Load Balancing Algorithm**: Designed and implemented round-robin replication strategy across regions, sustaining 99.99% availability while meeting internal latency SLAs.
- **Control Plane Canary Framework**: Migrated DynamoDB from single-region to multi-region canary validation; built framework enabling region-isolated testing and consistent creation of 59 long-running canaries.
- **Monitoring & Dashboards**: Defined 22 product-focused KPIs and built dashboards translating raw metrics into leadership-friendly signals; dashboards were used in senior leadership go/no-go launch decisions.
- **EU Data Regulation Cleanup Automation**: Coordinated automated account-deletion cleanup across 40 engineers for global tables, ensuring compliance with EU "right to be forgotten" data regulation laws and eliminating ~40 manual tickets monthly.
- **Mentorship**: Mentored 2 interns and 4 junior engineers through design guidance and code reviews, accelerating onboarding and enabling production-level contributions.

Amazon Web Services (AWS) DynamoDB — Seattle, WA
Software Engineering Intern — *June 2022 – September 2022*

- **Workflow Parallelization**: Optimized internal testing tool used by 300+ DynamoDB engineers; designed and implemented multithreaded setup that cut environment provisioning time from 5h to 30m at p99, accelerating service development and launch velocity.

VOLUNTEER

Camp Oasis — Seattle, WA
Volunteer Instructor — *Summer 2025*

- **Teaching**: Led and taught a class of 50+ students (ages 6–13) living with Crohn's disease or ulcerative colitis, introducing programming fundamentals through Scratch.

PROJECTS

GDPR-Friendly Key-Value Store — GitHub | Design Doc
Designer & Developer — *2025*

- **Subject-Centric Data Layer**: Added subject→keys mapping and API (Create, Put, Get, Delete) with validations, tombstoning, and precise retention.
- **Tamper-Evident Audit Trail**: Built append-only audit log with hash chaining, request IDs, and granular event types for immutable replay.
- **Erasure & Retention Engine**: Designed PurgeSweeper with GSI + transactional deletes to ensure provable, idempotent erasure post-retention.

EDUCATION

University of Washington — Seattle, WA
BA with Concentration in Information Systems; GPA: 3.89 — *Sep. 2018 – Dec. 2021*

SKILLS

- **Languages**: Java, Python, SQL, Rust, Bash
- **Cloud**: AWS (DynamoDB, EC2, S3), Distributed Systems, Scalability, Data Durability, Compliance