

Bradley Morabito

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Summary

Backend engineer with 4 years building event-driven portfolio management systems on Amazon Web Services (AWS) at Vanguard (\$10T+ AUM). Rebuilt an index benchmark service that processes 100M+ records/day, cutting production incidents from daily to fewer than 3 per year and recovery time from 5+ hours to under 1 hour, at a low run cost. Works across serverless and streaming architecture, data modeling, and GraphQL API design in TypeScript, Go, and PostgreSQL, with a focus on data integrity and multi-region availability.

Experience

Software Engineer (Application Engineer III) | Vanguard | Jul 2022 - Present

Benchmark Construction Service (TypeScript; Lambda, SNS/SQS, DynamoDB, AppSync, Aurora PostgreSQL)

- Re-architected the serverless service that calculates the index benchmarks behind portfolio trading decisions, on a 3-developer team in 4 months, reducing production incidents from daily to fewer than 3 per year.
- Engineered idempotent, order-independent ingestion of 100M+ price, index, FX, and reference records/day with transactional batch writes, so consumers receive only complete datasets.
- Built replay/redrive, dead-letter queue alerting, and Grafana monitoring for missing or invalid data; MTTR fell from 5+ hours to under 1 hour.
- Provisioned all infrastructure as code in CloudFormation and wrote AppSync resolvers, shared TypeScript libraries, and unit, integration, and mutation test suites. Now own the data model and design direction for a service adopted across all front-office applications.

Valuation Platform (Go, Java, Kotlin; Kinesis, AWS Managed Flink, Aurora PostgreSQL)

- Owned the API layer: selected a unified GraphQL API on PostgreSQL with subscriptions and designed the graph.
- Built and demoed a real-time prototype grid unifying security, portfolio, and benchmark data to senior leadership and head portfolio managers.
- Led technical direction for 6 developers building a Flink stream-processing prototype in Java and Kotlin: defined work, mentored, and reviewed code.

Equity Data Lakehouse (Go; S3, Kinesis, AWS Glue, Apache Iceberg)

- Built event-driven ETL in Go feeding an Apache Iceberg lakehouse that handles hundreds of GB/day for 100+ analytics, quant, and ML consumers.
- Owned the multi-region design tradeoff: chose active/passive S3 cross-region replication over active/active, cutting multi-region run cost by more than half.

Research Consultant | The Junkin Group | Philadelphia, PA | Apr 2020 - Jul 2022

- Conducted quantitative and qualitative program evaluations for nonprofit clients, using Python for data analysis.

Skills

- **Languages:** TypeScript, JavaScript, Kotlin, Go, SQL, Java, Python
- **Databases:** Aurora PostgreSQL, DynamoDB
- **Cloud (AWS):** Lambda, SNS/SQS, EventBridge, Kinesis, S3, ECS, CloudFormation (IaC)
- **APIs:** GraphQL, AppSync, backward-compatible API design
- **Practices:** distributed systems, event-driven architecture, serverless, data modeling, code review, testing (unit, integration, mutation)
- **AI Coding Assistants:** Claude Code
- **DevOps & Observability:** CI/CD (Bamboo, GitHub Actions), Grafana, X-Ray, OpenTelemetry

Education

Pennsylvania State University

- Master of International Affairs
- B.A. History, German, International Politics

Certifications

- AWS Certified Data Engineer - Associate (2025)
- CFI Capital Markets & Securities Analyst (2023)
- AWS Certified Cloud Practitioner (2022)