

Cameron McGinley

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Experience

Capital One

Senior Associate Software Engineer

Associate Software Engineer

San Francisco, CA

Jun. 2025 – May 2026

Feb. 2024 – Jun. 2025

- Built **tag-based RBAC** on **OpenFGA** (Zanzibar, Redis) across **1M+ resources** and **50+ tenants** with hierarchical role inheritance, cutting **p99** authorization latency from **~1.2s** to **~15ms**.
- Owned an **event-driven ingestion pipeline** (Python, Snowpipe, SQS, Postgres) continuously processing **20M+ records/day**, with change-triggered propagation, deadlock prevention, and cross-region resiliency.
- Designed and built the core authorization and backend for a **tenant impersonation system**, allowing support engineers to act as customers under scoped, audited permissions without credential sharing; unified authorization enforcement across all platform APIs via shared middleware.
- Built the usage-analytics service aggregating compute telemetry across **30k+ Snowflake warehouses and databases**, powering per-tenant warehouse right-sizing recommendations.

Capital One

Software Engineer Intern

McLean, VA

Jun. 2023 – Aug. 2023

- Built a PySpark pipeline on Databricks processing **100k+ records/day** for executive dashboards, designing data schemas and optimizing job performance.
- Automated data ingestion from EMR using AWS Lambda, implementing data quality checks with automated alerting to ensure pipeline reliability.

U.S. Government

Software Engineer Intern

Washington, D.C.

May 2022 – Aug. 2022

- Led the design of a Python-driven C/C++ software assurance system specializing in lexical analysis, handling source code with millions of lines of code at speeds **30–50x faster** than previous toolset.

Wichita State University

Machine Learning Research Intern

Wichita, KS

Jun. 2020 – Aug. 2020

- Built a **CNN** (Python, TensorFlow, Keras) classifying phishing emails at **~98% precision and recall**, and fine-tuned **GPT-2** to auto-generate scam-baiting responses.
- **Published:** [Convolutional Neural Network Optimization for Phishing Email Classification](#) IEEE Big Data, 2021

Projects

[SiteWatch](#) | TypeScript, Next.js, AWS Lambda, DynamoDB, Redis

- Built a serverless website-monitoring platform where users configure URLs, check functions, intervals, and alerts; fanned out checks across Lambda, cutting DynamoDB reads with Redis caching and zstd compression.

[Optimized Brainf**k Interpreter](#) | C++

- Compiles source to a condensed bytecode IR via instruction folding and peephole pattern matching, cutting instructions executed by **99%+**.

Skills

Languages: TypeScript/JavaScript, Python, C++, SQL

Frameworks/Libraries: Node.js, PySpark, React, Next.js, Pandas

Cloud/Infra: AWS, Postgres, Snowflake, SQS, DynamoDB, ECS, Redis, Databricks

Tools & Concepts: Docker, CDK, gRPC, tRPC, REST, OAuth 2.0, OpenFGA, OpenTelemetry, CI/CD

Education

University of California San Diego

M.S. in Computer Science | Systems Specialization | GPA: 3.95 / 4.00

La Jolla, CA

Sep. 2022 – Dec. 2023

Wichita State University

B.S. in Computer Science | Minor in Math | GPA: 3.99 / 4.00

Wichita, KS

Aug. 2018 – May 2022