

Ethan Kang

Software engineer building distributed systems, passionate about machine learning and scaling emerging foundational technologies
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Experience

Amazon Web Services | S3 Jul 2024 - Present
Software Development Engineer II Arlington, VA

- Designed and implemented checksum-at-rest mechanisms for S3, enabling asynchronous end-to-end verification of data integrity across billions of objects globally, supporting compliance and large-scale audit workflows.
- Built automated global validation infrastructure for long-running S3 workflows, including Glacier objects, handling complex staging and orchestration to ensure correctness and consistency across regions.
- Led architecture and design reviews for core S3 services, identifying critical dependencies, preventing potential durability issues, and ensuring multi-region scalability and reliability.
- Mentored interns and junior engineers on distributed systems design, operational best practices, and S3 API development, accelerating onboarding and improving code quality.
- Owned operational leadership for customer-facing services, coordinating high-severity incident response across teams, implementing process improvements, and ensuring AWS availability targets were consistently met.

Amazon Web Services | S3 Feb 2024 - Jul 2025
Software Development Engineer I Arlington, VA

- Implemented default data integrity features for all S3 write operations (PUT and multipart uploads), ensuring end-to-end data validation across billions of objects in all AWS regions, strengthening durability and consistency guarantees.
- Developed and deployed automated validation pipelines and production APIs to ensure checksum and data integrity operations were correct and consistent across all AWS regions, preventing data integrity errors and ensuring globally consistent behavior.
- Built and maintained CI/CD pipelines for regional builds and deployments, enabling fully automated, consistent feature releases across all AWS regions and cutting manual deployment effort.
- Enhanced service performance and reliability through code reviews, targeted testing, and operational tooling, contributing to measurable reductions in system errors and downtime.

Amazon Web Services | S3 May 2023 - Aug 2023
Software Development Engineer Intern Seattle, WA

- Implemented task cancellation features in S3's asynchronous batch processing platform, enabling customers to efficiently control workloads at scale, while building operational tooling that improved on-call efficiency and system observability.

Amazon Web Services | S3 May 2022 - Aug 2022
Software Development Engineer Intern Seattle, WA

- Optimized DynamoDB-backed enqueueer systems to increase parallelization for asynchronous S3 lifecycle workloads, and developed global operational dashboards covering 30+ regions to improve monitoring and operational visibility.

Environmental Data Resources May 2021 - Apr 2023
Data Science Intern Remote

- Built data-driven applications for environmental analysis, including a React-based geospatial visualization tool for contamination plumes and Python-based analytics tools for processing OCR data from 4,000+ city directories to support large-scale statistical analysis.

Education

Georgia Institute of Technology Sep 2020 - Dec 2023
Bachelor of Science in Computer Science, 3.8
Emphasis in artificial intelligence, machine learning, computer vision, and human-computer interaction

Skills

Programming Languages	Frameworks/Libraries	Tools
Java, JavaScript, Ruby, Python, HTML, C/C++, CSS, SQL	Node.js, React, Flask, Spark, JUnit, TestNG, Mockito, PyTorch, Maven, Gradle	Git, S3, CloudFormation, Spark, DynamoDB, Figma, Firebase, Docker, Linux, Jira, Adobe XD

Certifications

Google UX Design Professional Certificate Oct 2023

Volunteering

Digital Makers Asia Pacific September 2021 - Present
Logistics and Project Manager