

Kevin Chen

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EXPERIENCE

Amazon

Seattle, WA

Software Development Engineer

April 2024 - Present

- Migrated Kindle Search service to AWS, integrating **GraphQL gateway**, containerization via **AWS ECS**, and asynchronous service dependencies using **Kotlin coroutines**
- Designed and implemented **LLM-powered natural language search** for Kindle using **AWS Bedrock (Anthropic Claude)**, including intent classification and integration with production search services
- Owned development of the **Interactive Refinement Bar** and Android filter architecture, driving **+540 TPS filter usage** and **+87K additional subscription borrows/month (~\$794K annualized impact)**
- Led migration of Kindle Search Android UI to **Jetpack Compose**, reducing **UI codebase by 54%**, improving accessibility compliance and establishing reusable UI patterns across the organization
- Contributed to **Kindle Search service modernization**, implemented notification service migration, resolved **20+ accessibility issues**, mentored new hires and completed **500+ code reviews across 5 services**

Software Development Engineer Intern

May 2023 - July 2023

- Implemented the Kindle Search mobile UI using **ReactJS**, contributing to cross-platform UI modernization

Software Development Engineer Intern

May 2022 - August 2022

- Designed and implemented a data pipeline using **DynamoDB, EventBridge, SQS, S3** and **Lambda** to ingest customer search metrics and generate daily keyword trend reports

EDUCATION

University of Illinois Urbana-Champaign

GPA: 4.0

Master of Computer Science (Online)

May 2024 - Present

University of Illinois Urbana-Champaign

GPA: 4.0

Bachelor of Science, Computer Science + Linguistics

August 2020 - May 2023

- **Activities:** Computer Systems course assistant, Software Design Studio course assistant, ETRL computer vision research assistant, Leetcode @ UIUC student organization president
- **Awards:** UIUC Bronze Tablet (Top 3%) Graduate, Dean's List, 2023 Outstanding Undergraduate Student

PROJECTS

Heterogeneous-Resource-Aware Federated Learning with Intelligent LoRA Allocation and Aggregation

- Proposed [HRA LoRA](#), a dynamic LoRA rank estimation and allocation algorithm for **decentralized machine learning** under heterogeneous client resource constraints
- Co-author of research paper submitted to **CCGRID 2026**

Smarter Suggestions - Rethinking Reformulation and Related Searches with AI

- **Kindle AI Hackathon Winner (2025):** LLM-generated dynamic query reformulation and related searches

TOL-Trainer

- Built online [grading platform](#) commissioned by National Taiwan University for the Linguistics Olympiad

SKILLS

Languages: Java, Kotlin, C++, Python, TypeScript, SQL, Swift, Objective-C

Backend & Cloud: Spring, GraphQL, Guice, AWS (ECS, Lambda, S3, DynamoDB, SQS, EventBridge, CloudFormation, CloudWatch, SNS)

Frontend & Mobile: Jetpack Compose, React Native, Kotlin Coroutines / Flow, ReactJS, Sass, Node.js

ML & Data: PyTorch, TensorFlow, NumPy, Pandas, Bedrock LLM, OpenCV

Other Tools: Docker, Git, Linux, Gradle, Maven, CI/CD, JUnit, Mockito, MockK, GDB