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Ethan Wu

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Work Experience

Software Engineer II   **Amazon**   **Nov 2022–Present**
Payments team   Seattle, WA

- Designed and built a new impression logging service to record advertisement views, landing page hits, and application clicks for Amazon Payment products which receive more than 50K TPS worldwide. Leveraged AWS Kinesis and Batch to ingest data in near real time, which solved a long term scaling bottleneck and reduced onboarding times from 2 months to 2 weeks. Refactored the existing impression logging workflow to save the company 250K annually.
- Devised a new dynamic linking architecture plan to determine the long term vision for how credit card application links would be configured, stored, and shared in the Payments Org. Remodeled the existing configuration pattern to decrease the time needed to launch new campaigns and the probability of a misconfiguration by > 80%. Expanded the current data model to support flexible schemas allowing Product teams to configure more complex campaign types that will unblock campaign launches expected to generate 130+ million dollars annually.
- Designed and built the data ingestion and incentive assignment tools which optimized the preprocessing step and reduced monthly hardware costs from $10K to $2K. Reduced the cost per acquisition by 20% and increased acquisitions by 15% for 10+ clients through this launch.

Software Engineer I   **Amazon**   **Feb 2021–Nov 2022**
Payments team   Seattle, WA

- Served as the Black Friday/Cyber Monday Peak Readiness Lead for a team of 10 and was responsible for scaling runtime services and dependencies, conducting load tests, and performing audits across all facets regarding Payment Ad rendering. Identified and mitigated two scaling issues that would have caused a major impact to the advertisement rendering system. Lead team through a peak event which resulted in no major customer impacting tickets and services handling > 10 billion requests worldwide during Black Friday/Cyber Monday.
- Built a lightweight and scalable service using AWS Lambda, API Gateway, and DynamoDB to provide data for determining a customer's eligibility for a particular ad. This service reduced the need to scale the current configuration service by 10x, saving $5K in monthly hardware costs. Spearheaded the adoption of the Smithy IDL on the team, updating our data type modeling and making it available for non-Java languages.

Software Engineering Intern   **Amazon**   **Summer 2020**
Payments team   Seattle, WA

- Headed migration from Spring to React on an internal analytics tool for the Payment Products Machine Learning team. Enhanced functionality and UI of the analytics tool to automate the process of adding new model types. Implemented a new testing framework (JEST) to improve debugging and maintainability.

Education and Certifications

- **B.Sc. Computer Science & Statistics,** University of North Carolina, Chapel Hill.   **2017–2020**

Technologies and Languages

- Languages: Java, Python, Typescript, Javascript, HTML, CSS, SQL, C
- Technologies: AWS, Node, Docker, Git
- Frameworks: React, Spring, Dagger, jQuery