Xincheng Huang

Software Engineering

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Education

2018 - 2019 **School of Computer Science**
Carnegie Mellon University
M.S. in Software Engineering, GPA: 3.71/4.33

2014 - 2018 **School of Computer Science**
Xi' an Jiaotong University
B.E. in Software Engineering, GPA: 3.74/4.33

Google, Inc. Core AI - Software Engineer (2022 - Present)

Mapreduce Google Cloud Hardware Health Data Pipeline Development:
Developed and maintained advanced Flume C++ data pipelines for processing hardware health and repair data from Google's server clusters, serving millions of machines worldwide. Designed comprehensive SQL table schemas for a broad spectrum of data, including repair cases and hardware components, facilitating in-depth Data Center analytics and decision-making.

Google Cloud Data Center Data Platform Engineering with C++ and SQL :
Design and implemented Google Cloud Unified Data Platform for machine repair and downtime intervals. Built and optimized data dumpers for transferring data from SQL tables to raw data tiers, significantly improving the handling of large-scale datasets. Enabling the platform to process tens of thousands of records per hour, incorporating multiple layers of data cleaning to produce foundational tables for analytics and customer-facing applications.

Data Center Anomaly Detection Pipeline Design with C++ and ML:
Designed and implemented anomaly detection algorithms to identify significant deviations in data, aiding in the early detection of hardware failures. Developed a comprehensive anomaly detection system that leverages health metrics analysis, sophisticated data filtering and cleaning techniques, and machine learning algorithms to identify potential large-scale failures of hardware components within the same cluster or server group. Enables preemptive action to significantly reduce machine downtime through advanced repair planning, while also facilitating improved inventory and labor management by anticipating repair requirements.

Machine Cost Analysis Pipeline Development with C++:
Led the development of a C++ pipeline for automating daily snapshots of machine costs, integrating these insights for real-time downtime cost calculations. Designed a flexible cost configuration to adapt daily, ensuring updates align with evolving cost sources. Crafted a solution to make the new cost model backward compatible, preserving financial data since 2011.

Skills

Programming Languages:
C++、 Java、 Python、 Ruby、SQL、Shell、TypeScript、JavaScript、

Frameworks/Tools:
Google Cloud CLI、 Protobuf、 Linux、 Spring Boot/MVC、Angular、React、 Hibernate、Guice、Mapreduce

Cloud Services:
Google Cloud、 AWS

DevOps Tools:
Kubernetes (K8s)、 Docker、 Jenkins、 Gradle

Testing Tools:
TestNG、 Junit、 Mockito、 Jest、JaCoCo

Methodologies:
Agile、 TDD、 SOLID principles、 REST、Microservices

Amazon.com, Inc. Payment - Software Development Engineer (2019 - 2022)

Java Backend Development for Amazon Pay Integration:
Led the Java backend development of Zappos' Amazon Pay integration, employing AWS SNS, Lambda, and Spring for efficient message handling and dependency injection. Designed event routing and Elasticsearch-DynamoDB indexing for streamlined transaction processing. Automated AWS resource management with CDK, enhancing scalability and operational efficiency.

Full-Stack Java Project Leadership for Amazon Pay Merchant Central:
Developed the AmazonPay merchant application management central as a full-stack Java project, employing Spring Boot/MVC for the backend and JavaScript with jQuery and Ajax for the frontend. Emphasized clean architecture in RESTful services, utilized DynamoDBMapper and Coral for data access and microservice interaction, respectively. Crafted RSASSA key vending tools using the Web Crypto API, and leveraged Amazon's UX tool, Katal, for frontend mockups. Executed comprehensive A/B testing to optimize merchant experience and gather critical business and behavior metrics.

Amazon Suspicious Transaction Analysis with Java and AWS Lambda:
Developed an AWS Lambda-based microservice to analyze and report suspicious merchant transactions, integrating with Amazon Pay's machine learning API for enhanced detection. Created a React Alert Portal dashboard for visual monitoring and management of merchant activities, significantly reducing customer loss by identifying and blocking malicious requests efficiently.