

Todd Huang

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* Green Card Holder

Technical Skills

Programming Languages: Java, Python, TypeScript, JavaScript, SQL

Backend: Spring Boot, REST APIs, Microservices, Distributed Systems, OpenAPI, Node.js, Vim, WebSockets

Frontend: React, Next.js, Angular, Jest, Playwright, HTML, CSS, Tailwind

AWS & Data: Lambda, API Gateway, S3, SNS, SQS, Aurora RDS, DynamoDB, Glue, Athena, GraphQL, OpenSearch, Snowflake

DevOps & Testing: Jenkins, CI/CD, Docker, CloudWatch, Terraform, JUnit, Integration Testing, Git/GitHub, Linux

AI/ML: LangGraph, RAG, Amazon Comprehend, Bedrock, LLMs, Vector Search, Semantic Retrieval, Anomaly Detection

Work Experience

Capital One

Feb 2025 – Present

Senior Associate Software Engineer

McLean, VA

- o Led the technical roadmap and production delivery of a reusable ML-based data quality framework, progressing from a dataset-level proof of concept to an automated validation gate that detects and blocks anomalous data before publication to 17 downstream trading teams.
- o Led a two-person engineering effort to design and implement a reusable, event-driven AWS data pipeline using Amazon S3 and Lambda to invoke enterprise anomaly-detection workflows, process model results, notify business stakeholders, and publish validated datasets to OneLake.
- o Designed and deployed a Java/Spring Boot microservice exposing REST APIs through Amazon API Gateway to automate recurring and ad hoc data-quality jobs, managing centralized scheduling and job-tracking metadata in Amazon Aurora RDS. Documented APIs with OpenAPI and delivered through Jenkins CI/CD with JUnit and integration testing.
- o Re-architected asynchronous job execution and result processing using Amazon SNS, SQS, and Lambda, implementing idempotent consumers, retry policies, and DLQs to improve fault tolerance. Added Amazon CloudWatch observability and increased concurrent processing capacity by 300% while reducing timeout rates from 1.8% to 0.1%.
- o Led the design and end-to-end delivery of an AI contract-intelligence platform in Python enabling Compliance teams to analyze clauses across 7,500+ contracts and 1,500+ monthly additions, reducing manual review time by 83%.
- o Architected a LangGraph-based hybrid RAG platform that dynamically routes natural-language questions across text-to-SQL analytics and Amazon OpenSearch vector retrieval, with human-in-the-loop clarification and persistent feedback for future queries.

Kinetik Simulation, LLC

Feb 2023 – Jun 2024

Software Engineer

Chapel Hill, NC

- o Led a team of 4 developers to create a go-to-market Salesforce sales pipeline simulation platform, integrated a Monte Carlo forecasting model with predictive analysis, and an AI recommendation engine to optimize the marketing decision-making process.
- o Developed a web frontend using React, JavaScript, HTML, and CSS, managed hosting via AWS Amplify, implemented authentication through AWS Cognito, and constructed a multi-table NoSQL database using DynamoDB with GraphQL.
- o Built automated ETL pipelines with AWS Glue to extract Salesforce data into an S3 bucket, then connected Amazon Athena through a WebSocket API for real-time simulation queries, improving data processing speed by 42% and data accuracy by 73%.
- o Developed a Python-based web scraping pipeline with Scrapy and Beautiful Soup on AWS Lambda to process 1M+ web pages, integrating Claude 3 and Amazon Comprehend to classify unstructured web content for downstream sales intelligence workflows.

Fidelity Investments

Jun 2024 – Aug 2024

Software Engineer Intern

Durham, NC

- o Built a bank check upload feature for bank account linking in the Electronic Funds Transfer (EFT) process using Camunda Modeler with Java, reducing manual processes by 95% and saving 11,000+ paper documents annually.
- o Developed an Angular dashboard to track and resolve EFT workflow errors, improving error detection and backtracking in Camunda workflows, reducing troubleshooting time by 40%, and minimizing downtime.
- o Extracted and transformed raw EFT process-instance data using SnowSQL, populated prepared datasets for workflow analysis, and supported UAT validation, API testing with Insomnia, and deployment workflows using Jenkins and Terraform.

Education

University of North Carolina at Chapel Hill

May 2024

Bachelor of Science in Computer Science (GPA: 3.9)