

# Xuanyi Zhu

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Software Engineer at Oracle Cloud with over four years of full-stack development experience specializing in back-end technologies. Domain expert in Kubernetes and various cloud platforms through experience gained at multiple SaaS companies.

## Skills

**Languages:** Java, Python, C++, C, Terraform, PHP, JavaScript, SQL, CSS, HTML, Haskell, R, MATLAB, Perl, Ruby  
**Tools:** Kubernetes, Docker, AWS, MVC, Spring, Flask, RESTful, MongoDB, MySQL, Tensorflow, WebGL, Linux

## Work Experience

**Oracle Cloud** Seattle, WA

01/2021–Present

**Software Engineer** (*Container Engine for Kubernetes, Java, Terraform, Dropwizard*)

- Innovated and architected the PDE application, which containerizes Oracle Kubernetes service components and dependencies into a VM. Eliminated the need for competition and coordination over a shared environment, empowering each developer with their own personal local end-to-end development environment. Facilitated rapid iteration, leading to heightened efficiency, productivity, and widespread adoption among 300 engineers for their daily software development in the organization.
- Designed the foundational framework for Oracle Kubernetes service, optimizing testing processes and incorporating behavior-driven development principles. Addressed challenging scenarios not easily tested in the integration environment by effectively translating user stories into a comprehensive test suite, resulting in a remarkable increase in overall coverage from 59% to 99.8%.
- Implemented the Cycling Nodepool service to strengthen the nodepool workflow, which automatically and seamlessly replaces customers' worker nodes with the latest configuration and ensures instances are kept up-to-date and secure. Eliminated the burdensome monthly task of manually updating a fleet of nodes while greatly improving compatibility and security for customer Kubernetes nodepools.
- Standardized and automated region build as a service, leveraging the CI/CD pipeline and terraform to deploy the cloud infrastructure components. Improved touchless operations and reduced the region build time from 6 weeks to 4 hours.

**Amazon Inc.** Seattle, WA

07/2019—01/2021

**Software Engineer** (*Java, DynamoDB, Kinesis, Lambda, S3, SQS, Coral, Herd, DataPath, Gurupa, OOD*)

- Launched a system that collates books and presents the collection pages to Amazon customers. Invented a Next Book In Series service to encourage additional purchases, enhancing customers' book shopping and reading experience, as well as increasing customer glance views by 43% and company profits by \$3 million.
- Designed, developed, and launched a scalable information ingestion system that curates data and publishes book series to the Amazon catalog data warehouse, enabling 10+ downstream features.
- Redesigned the data validation service, leveraging multithreading, asynchronous computation, and batch processing techniques to increase service performance by 71%.
- Implemented an operational metrics collection service, integrating it with the internal system to enable data flow tracking and analysis, reducing manual efforts from over 2 days to just 2 minutes.
- Maintained and enhanced the internal metadata querying system, aligning it with the latest Amazon infrastructure and AWS services, resulting in monthly savings of millions of dollars for the Kindle division.

**Zoom Video Communications** San Jose, CA

05/2017–08/2017

**Software Engineer Intern** (*Python, Tensorflow*)

- Built neural network models (MLP, CNN, LSTM) for classifying noise and human sounds, aiding the audio team in achieving noise reduction/cancellation goals with 97% accuracy.
- Applied normalization and regularization techniques with optimal parameters to address overfitting issues.
- Optimized and evaluated performance via feature selection, k-fold cross-validation, precision, and recall.
- Presented analysis results to executives and authored a tutorial book on ML/AI concepts and resources.

## Education

**University of Illinois at Urbana-Champaign**

08/2014 – 05/2019

**Bachelor of Science in Computer Science**

GPA:3.81/4.0

**Master of Computer Science in Computer Science**

GPA:3.62/4.0

Relevant coursework: • Machine Learning & Artificial Intelligence • Database & Distributed Systems