

Jie(Jeni) Wang

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Work Experience

Oracle Cloud Infrastructure - Media Services

Austin, TX

Software Developer II

September 2024 - Present

- Designed low-level file metadata extraction architecture using ARGO workflows and AI agent integration in containerized workflow steps
- Created an **AI conversation agent** using an internal agent builder framework, WayFlow Core, and provided various OCI GenAI and open source LLM Endpoints while also utilizing RAG to generate metadata information about media assets
- Created custom images via OCI CLI of nodes for a metadata extraction software, Diskover, for distribution in OCI Marketplace
- Improved test coverage by **68%** using Micronaut framework annotations for integration tests for service control plane
- Implemented secure client-to-server API traffic with **mTLS** certificate verification over **TCP** connections, protecting **100%** of API requests between client requests and Oracle Managed Kubernetes (OMK) API pods via a proxy DNS and load balancer
- Deployed OCI load balancer in OMK via **Helm charts**, configured cluster and network parameters, and monitored pod health to ensure high availability and fail-over for API services, achieving **32% faster request processing**
- Automated Infrastructure deployment resources such as Virtual Cloud Networks (VCN), Subnets, Instances, Identity policies, and Object Storage using Terraform/ HCL, an IaC language, to create control plane resources
- Provisioned a public subnet within an OMK cluster to enable load balancer routing for public incoming traffic from a proxy server
- Constructed custom ARGO images using Dockerfiles on top of a hardened GO base image for security compliance and deployed images from OCI Repository into pods using Oracle Kubernetes Engine (OKE)
- Conducted five-part benchmarking for Tigris, a global storage software, by developing custom scripts to measure availability and response times, testing cross-region performance with S3 storage and retrieval
- Automated database schema migrations on Oracle Autonomous Database using Liquibase schema change logs, ensuring consistent schema updates across environments

Pacific Biosciences

San Diego, CA

Software Engineer II

March 2023 - November 2023

- Implemented a **on-prem to cloud dashboard data migration agent** utilizing C# in .NET, applying dependency injection to isolate components and encapsulation to provide a more secure and testable software
- Established a secure connection to AWS IoT using **MQTT**, leveraging **mTLS** authentication to ensure encrypted communication
- Created a directory scanner that triggers a callback function to upload payload to AWS S3 when subscribed topics are published to
- Transferred unorganized file data from S3 buckets to filtered Data Warehouse service using AWS lambda functions as a trigger event and SQL statements in **Snowflake** as storage instructions
- Displayed organized data using Sigma (**PowerBI tool**) to display analysis metrics for customers in an interactive, digestible format, leading to a **32%** increase in customer user experience
- Engineered real-time monitoring dashboards by integrating AWS Loki logs with Grafana, decreasing mean detection time by **73%**

Amazon

San Diego, CA

Software Developer Engineer

May 2022 - March 2023

- Implemented components of application using Amazon's internal **Service-Oriented Architecture** to orchestrate API calls to enable cross-ledger debt offset and recovery project that retrieved **\$13M USD** in India after one year
- Developed automated **integration tests** to ensure accuracy of ledger balance updates for seller accounts using **mock** to simulate external API interactions leading to a **27%** increase in ledger balance accuracy
- Configured **AWS CloudWatch** alarms to provide alerts on metrics and latency of workflows, services, and API calls for proactive performance management, enforcing **30 minute** response times
- Performed on-call duties such as responding to alarms and maintaining **CI/CD** pipeline readiness for all phases of deployment
- Engineered **Low-Level Designs** detailing workflow process for retrieving balances and functions to offset them

Illumina

San Diego, CA

Full Stack Software Engineer

October 2021 - April 2022

- Developed high-performance DNA sequencing and analysis software using the **MVVM (Model-View-ViewModel)** architecture in C# on the .NET Framework, leveraging **WPF** to deliver an intuitive user interface that enhanced workflow efficiency and reliability
- Captured error handling between server of the new platform using message dialogues in C# resulting **increased UI experience by 37%**
- Validated inputs of the equipment using REST API calls made to the server and cross-referenced with local input list
- Constructed automation framework for integration tests using C# to aid Software Test Engineers in the testing process

Skills

Languages: Python | Java | GO | C# | C++ | SQL | HCL/Terraform
Development: Git | Docker | Kubernetes | CI/CD | LLM | .NET | Micronaut | Java Spring | Argo | REST API | Bitbucket | Grafana

AWS: S3 | IoT | Lambda | CLI | Cloudwatch Alarms
OCI: S3/ADB | Network | CI/CD Pipeline | Instances | WFaaS | GenAI/RAG | Load Balancer | CLI | LLM

Education

University of California San Diego

La Jolla, CA

Major: Data Science B.S. Minor: Management Science

September 2017 - June 2021