Siou-Jhih Guo

Site Reliability Engineer

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Work Experience

Microsoft
Dublin, Ireland

Software Engineer
Jun 2024 - present

- Designed and implemented tools(based on GoLang, shell scripts and Ansible) for managing more than 100,000 Kubernetes clusters as AKS control plane infrastructure.
- Designed and implemented customized Local DNS solution on clusters(IPTable, Route table and CoreDNS) to reduce 30-70% traffic made by K8s DNS query and avoid CONNTRACK table filling issue.
- Migrated cluster VM image from Azure Linux 2 to 3. Worked closely with related teams to ensure all K8s components and packages were up-to-date and work properly. This work made the system satisfied security requirements(CVE) and compliance in future.

Microsoft
Dublin, Ireland

Software Engineer
Aug. 2023 - Jun 2024

- Worked as Microsoft internal translation system developer.
- Migrated Microsoft internal translation system (based on .Net 4.5) to new architecture (based on .Net 6) and Azure Function to have better extensibility and scalability for new features and throughput.
- Designed and standardized unit tests framework of new translation system based on MSTest data-driven attributes, which expected to reduce 10-20% development time and 20-30% duplicated code.
- Designed routing solution based on Azure Front Door and Key Vault(for SSL Certificate) for new architecture service.
- Migrated CI/CD pipeline for building service from legacy configuration based ADO pipeline to yaml based pipelines, which enhanced security and reduced total lines of pipeline code.

Microsoft
Dublin, Ireland

Site Reliability Engineer
Nov. 2022 - Jul. 2023

- Operated Microsoft internal translation system which processed 10,000,000 translation request per day. Troubleshooted and fixed issues of system or submitted documents, which reduced 15-40% time on addressing and responding problems.
- Developed automation tools for collecting log/metric and solving issues via Microsoft PowerAutomation and Powershell, which reduced 10-50% human interaction time.
- Designed and analyzed metrics to help SREs and SWEs discover issues earlier, which reduced 10-60% of issue detection time.

Yellobrick Data
London, England

DevOps Engineer
Oct. 2021 - Nov. 2022

- Worked on pipeline/tools of Yellobrick cloud native data lake product(AWS/Azure/GCP-based) which used by more than 100 partners from Fortune Global 500.
- Worked on CI/CD pipelines(Jenkins-based, involves Python/Bash Shell/Terraform/Ansible scripts) for building/testing/deployment jobs automation. Saved 20-30% times for developers and operation engineers on related works.
- Designed and constructed logging solution(Loki/Grafana/K8S-based) to replace legacy log storage/browsing solution. Saved support and operation engineers 50-70% times on log collecting/analyzing task. Also reduced about 40% bug-fix/issue addressing time.
- Designed and constructed Python based client library/CLI-tool for programmatically interacting with cloud product. Saved customers and internal engineer teams 30-80% time on infrastructure management.
- Designed and constructed internal metric backend(Django based) and dashboard(Grafana based). Helped engineer teams to track and optimize product related artifacts and internal costs. Also constructed Slackbot(bolt based) for costs related notification. Reduced about 5-15% costs on cloud related platform.
- Designed and implemented authentication solution for M2M scenario(AWS secret manager and Nginx based). Secured internal tools on clouds which out of corp-network VPN's scope. Pipelines could interact with these internal services securely.

Amazon Web Service(AWS) EMEA SARL(Irish Branch)
Dublin, Ireland

Cloud Support Engineer
May. 2021 - Aug. 2021

- In addition to the core responsibilities of the Support Engineer, built the Mandarin Support team in Ireland from scratch, which reduced about 30% of the on-call work time for the Support Engineer in Taipei and the SEA region.
- Developed internal tools based on Django(Python)/Nginx/MySQL/ECS, which reduced 30-40% workload for manager and engineers.

Amazon Web Service(AWS) Taiwan
Taipei, Taiwan

Cloud Support Engineer
Aug. 2019 - Apr. 2021

- Worked as AWS support engineer and solved more than 1,000 customers' questions of container and deployment related AWS services. Including: Amazon ECS, Amazon EKS, AWS App Mesh, AWS Code-series services(AWS CodeCommit, AWS CodeBuild, AWS CodeDeploy, AWS CodePipeline), AWS CloudFormation, AWS CDK, AWS X-Ray and AWS Batch.
- Saved 20%-55% times for users on investigating/solving AWS service related issues.
- Saved 15%-40% time for AWS internal development team on investigating AWS services related bugs.
- Saved 20%-60% time for users on solving network connectivity, OS performance and open source project(Docker, K8s and related components) related issues.

IChen Corp.

Taipei, Taiwan

Software Engineer

Sep. 2015 - Feb. 2017

- Worked as core service engineer for B2C retailer automation systems used by more than 10,000 customers.
- Designed and developed self-serve system for parking lots which allowed customers to park vehicles and pay by license plates without human parking officers. It was used by more than 10,000 parking spaces which reduced users and parking lot managers/clerks 60% of time on payments and verification.
- Designed and constructed FreeSwitch 1.6 based VoIP communication solution for parking lots intercom system. Also developed embedded VoIP client based on Raspberry Pi and Python/C-Language. The system replaced phone based solution and saved 60% costs.
- Designed and developed self-serve system for restaurants which allowed customers ordering and paying without human receptionist. It used by more than 500 restaurants and reduced users and clerks 60% of time on payment and ordering.
- Constructed and managed infrastructures(GCP and OpenVPN) and CI/CD pipeline(GitLab and Ansible based) for accounting and Customer Relation Management(CRM) services. It reduced 55% of IT cost, 30% service downtime and 55% service releasing time.

Tamkung University(TKU)

New Taipei City, Taiwan

Teaching Assistant

Jan. 2017 - Jan. 2019

- Developed Spark Cluster management solution based on Django and Docker(Docker Swarm) for students studied in data analytic related researches.
- Constructed and maintained Hadoop cluster based on HDP(Hortonworks Data Platform) and Ansible for students and professors studied in big data related researches.

Tamkung University(TKU)

New Taipei City, Taiwan

Private Cloud Maintainer

Aug. 2013 - Jun. 2016

- Constructed an OpenStack (Kilo) based private cloud for TKU CSIE. It replaced VMWare-based virtualization solution and reduced 50% IT costs.

Education

TKU (Tamkung University)

New Taipei City, Taiwan

M.ENG. in Computer Science and Information Engineering

Jan. 2017 - Jan. 2019

- Master Thesis: Let Machine Read Candlestick Charts Like Human Beings - Forecast trend of stock/future price by analyze candlestick charts. Compared performance between traditional approach and deep learning based solutions such as CNN and RNN.

TKU (Tamkung University)

New Taipei City, Taiwan

B.ENG. in Computer Science and Information Engineering

Sep. 2012 - Jun. 2016

- Graduation Project : VoIP over SDN(Software Defined Network) - A project to demonstrate flow-control ability of SDN which could improve performance of network-sensitive application. The project was based Floodlight, OpenvSwitch 1.6(OpenFlow 1.3).

Writing

Hallblazzar : Developer's Journal

Medium

Founder & Writer

Mar. 2018 - PRESENT

- Link: https://medium.com/@hallblazzar

Predicting the price movement from candlestick charts: a CNN-based approach

IJAHUC

Chih-Chieh Hung, Ying-Ju Chen, Siou Jhih Guo, Fu-Chun Hsu

2020

- International Journal of Ad Hoc and Ubiquitous Computing (IJAHUC), Vol. 34

Deep Candlestick Predictor : A Framework Toward Forecasting the Price Movement from Candlestick Charts

Taipei, Taiwan

Siou Jhih Guo, Chih-Chieh Hung, and Fu-Chun Hsu

Dec. 26th-28th 2018

- PAAP'18 - The 2018International Symposium on Parallel Architectures, Algorithms and Programming

Let Machine Read Candlestick Charts Like Human Beings

Yokohama, Japan

Siou Jhih Guo, Chih-Chieh Hung, and Fu-Chun Hsu

Nov. 12th-14th 2018

- IDAA 2018 - International Workshop of Intelligent Data Analytics and Applications, Joint with JSAI International Symposia on AI

Language Skill

Mandarin

Native

- Writing: native / Speaking: native / Reading: native / Listening: native

English

Intermediate

- Writing: intermediate / Speaking: conversational / Reading: intermediate / Listening: intermediate