

# Ken Hu

Versatile Site Reliability Engineer with comprehensive experience in managing cross-regional cloud services and supporting application development at Pricer. Expert in maintaining robust cloud infrastructure, including databases, and adept at implementing SLO monitoring for application backends. Demonstrated success in optimizing workflows, facilitating resource migration across clusters, and introducing improvements to the development process. Passionate about ensuring high system reliability and efficiency, seeking to contribute advanced technical skills in a challenging SRE position.

📍 Taiwan Taipei <https://k402xxxcenxxx.github.io/>  

## Experience



### Site Reliability Engineer • Pricer Nov 2023 - Present

**SRE:** Optimize cross-regional cloud services and enhance application development support.

- Maintained and optimized **cross-regional cloud services**, enhancing system reliability and performance.
- Supported application development, integrating backend **SLO monitoring** with cloud infrastructure management.
- **Led** a major **workflow implementation** for efficient **resource migration between clusters**, boosting operational effectiveness.
- Implemented developmental process improvements, contributing to increased productivity and system stability.



### IT Net DevOps Engineer • TSMC Nov 2022 - Jun 2023

**DevOps:** Support legacy IT operation automation. IT software CI/CD pipeline development.

- **Network device monitoring:**
  - Designed monitoring software stack with open-source tools for monitoring tens of thousands of devices globally.
  - Deployed auto-scaling endpoints dedicated to telemetry data from network devices for efficient monitoring.
  - Designed an algorithm to manipulate configurations and deploy data collecting agents for collecting data from legacy devices.
  - Integrated deployment testing using a local Kubernetes cluster in the CI pipeline to ensure smooth functionality during rolling updates.
- **Network system CI/CD pipeline:**
  - Integrated CML (Cisco Model Lab) into GitLab CI pipeline for developing IT software targeting network devices.
    1. Constructed a minimal network topology in the actual environment using CML.
    2. Deployed the software solution to the lab environment
    3. Conducted comprehensive functional testing by reproducing the networking issues in the lab



### Full stack engineer • Inventec Corp. Oct 2019 - Oct 2022

**DevOps:** Support an AI-inside pure-software Medical Device product as a DevOps role

- Developed I-SWAT, the pioneering software to receive the QMS certificate in Taiwan in 2022. ([TFDA news QMS2062](#)).
- Achieved compliance with rigorous standards of development process for pure-software Medical Devices.
- Utilized CI/CD pipelines to automate unit-testing, functional testing, and deployment testing.

- Conducted regular virus and vulnerability scans to maintain product security.
- Implemented a nightly-build process for each release to ensure product reliability.

**MLOps:** Deploy multi-node Kubernetes clusters with HA to support the development of AI-based medical device products while ensuring data security and resource optimization.

- Established private cloud infrastructures using on-premise machines for developing AI-inside pure-software Medical Device products, which include testing, training, staging and production clusters.
- Enabled **MLOps** by utilizing private cloud infrastructure for the development of machine learning algorithms that involve confidential training data.
- Deployed and managed the Kubernetes clusters using **Microk8s** and utilized **Kubeflow** for efficient experiment execution.
- Utilized **GPU-operator** for resource management, ensuring effective allocation of GPU resources for researchers.
- Developed pipelines using **Jenkins** with Kubernetes runners to provide seamless access to storage resources and experimental environments.
- Implemented secure access control using **Istio** for RBAC routing and integrated **OIDC authentication with Gitlab** using **dex**.
- Monitored resource utilization using **Prometheus** and **Grafana**, providing a comprehensive dashboard with alerting capabilities.
- Deployed tools and services: **Microk8s**, **Kubeflow**, **Katib**, **Jenkins**, **GPU-operator**, **Prometheus**, **Grafana**, **Synology-iscsi CSI**, **OIDC auth with Gitlab**, **OpenEBS**, **Istio**.
- Maintained 10 physical servers, including monitoring, networking and purchasing.

#### AI algorithm development:

- Developed algorithms for **automatic generation of reports** (.pptx) for 3D CAD (.stp) measurements of various key parts.
- Conducted a comprehensive survey of **person re-identification algorithms** and created a migration demo within the existing solution.
- Conducted a survey and implemented an algorithm for **social distance estimation** based on preset coordinates.

#### Full stack:

- Developed a platform for AOI results reviewing and relabeling which has a basic **html** UI and a **PHP** backend.

#### Education



2017 - 2019

國立臺灣大學 Nation Taiwan University

Master of Computer Science



2013 - 2016

國立臺灣科技大學 NTUST

Bachelor of Computer Science

#### Master Thesis: Context-aware Video Loop based on Frame Entropy

- Generated endless video loop from a short clip automatically.
- Specialized in processing videos with characters, leveraging previous research on temporal and spatial consistency to introduce **contextual consistency**.
- Introduced the concept of **frame entropy** as a measure of raw input video utilization and utilized **bouncing** behavior to create more intricate and dynamic video loops.

## Skill

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Python, C/C++, Go, Kubernetes

Experience	
Kubernetes, Jenkins, Terraform, Microk8s, Github Actions	Advanced
Prometheus, Grafana, Kubeflow, Fluent-operator	Familiar
GPU-operator, Synology-icsci, Katib, OIDC, OpenEBS	Basic knowledge

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