Xiao Sun

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gender: male · **birth**: 2000.08

EDUCATION

Harbin Institute of Technology, 985, Cyberspace Security, *Master*   2022.08 - 2025.03
- **Research direction**: Task hybrid deployment and scheduling in CloudNative environment; Resource allocation method in CloudNative environment

Harbin Institute of Technology, 985, Computer Science and Technology, *Bachelor* 2018.08 - 2022.06
- **Professional direction**: Parallel Computing and Distributed Computing

INTERNSHIP EXPERIENCE

Alibaba Cloud—Basic platform engineer—Product Architecture and Stability Department
2024.06 - 2024.09
- Responsible for the development of the Kubernetes custom resource object CRD version conversion Webhook service module, supporting automatic injection of CRD version conversion configuration; supporting automatic identification of diff differences between CRD versions based on Open API v3 schema, and realizing the CR automatic version conversion function without rule definition. **Add the function of calculating diff and setting the json object field value in jsonPath format to Golang.**
- Responsible for the development of the Dry-Run module, supporting the full object rule verification before CRD conversion configuration injection, supporting the offline conversion rule definition at the source code level; supporting the version conversion requirements of super-large objects in CR, designing and implementing super-large object storage solutions and version conversion solutions.
- Responsible for the verification of the automatic verification function of the CRD version upgrade of all products in the base project team, responsible for the implementation of the access mechanism of the policy center component, and participating in the design and development of platform policy rules.

SCHOOL PROJECT

CloudNative hybrid deployment method for LS&BE DNN tasks   2022.11 - till now
- **Shenzhen Higher Education Stability Support Plan Project, my research topic**. The hybrid deployment method of LS&BE tasks in the cloudNative environment realizes traffic scale prediction and hybrid orchestration of LS&BE tasks, and improves system resource utilization while ensuring the SLO requirements of LS tasks.

Resource management methods of virtual machines and Docker   2022.08-2023.11
- The automatic parameter tuning method of virtual machines or containers based on deep reinforcement learning A2C algorithm. By obtaining the status of the kvm virtual machine or container, the virtual machine memory, vCPU core number, and bandwidth size are adaptively and dynamically adjusted to improve system resource utilization and virtual instance operation performance.

PAPERS

Minimizing Service Latency through Image-based Microservice Caching and Randomized Request Routing in Mobile Edge Computing, IOTJ (SCI-I) First author
- Research topic paper 1, a service caching and task request routing method based on random approximate algorithm, which minimizes the average request routing time in the KubeEdge environment.

EVRM: Elastic Virtual Resource Management Framework for Cloud Virtual Instances, FGCS (JCR Q1) Third author   in submission
- Virtual machine resource management method based on deep reinforcement learning in cloud environment, responsible for source code transplantation and experimentation in qemu-kvm environment.

PROFESSIONAL SKILL

- English level：CET-6 542; Personal homepage: demerzelsun12.github.io

- Programming Language： Golang, Python, Java, C
- Cloud computing direction： Familiar with Kubernetes, Docker
- Basic knowledge: Git, computer network, database MySQL, operating system, etc.

CERTIFICATE OF HONOR

- 2022 Outstanding Graduation Project of Harbin Institute of Technology
- 2022 Outstanding Student of Harbin Institute of Technology
- 2020 National College Student Mathematics Contest Provincial Second Prize
- 2019 National College Student English Contest National Third Prize
- 2019 People's Scholarship First Prize; 2020 People's Scholarship Third Prize; 2021 People's Scholarship Second Prize

THATGAMECOMPANY GAMES EXPERIENCE

- **Flower**: Played on Steam for 5 hours.
- **Journal**: Played on Steam for 20 hours.
- **SKy**: Playing from Season of Sanctuary till now, participated in all seasons and days so far, my favorite season is Season of The Little Prince, and my favorite day is Days of Bloom.
- Extra: Participated in Sky test server testing activities for a year and reported bugs on Discord.