Luo Chen

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Education

- **Northeastern University** — Boston, MA
  Master of Science in Software Engineering Systems — *GPA 3.67 Jan. 2023*
- **Wuhan University** — Wuhan, China
  Master of Science in Software Engineering — *GPA 3.73 Jun. 2020*
- **Wuhan University** — Wuhan, China
  Bachelor of Software Engineering — *June. 2018*

Skill Stack

- **Development**: Java(SpringBoot, SpringMVC, JVM), Python(Flask, Scrapy, Sklearn), Node.js(Vue), C++, Shell
- **Operation**: Linux, AWS Console, Terraform, Packer, Ansible, Kubernetes, Docker, Docker-compose, Jenkins, GitOps
- **Others**: Git, GDB, JProfier, Distributed Database, Nebular Graph
- **Courses**: Data Structure and Algorithm, Network Structure & Cloud Computing, OOD, etc

Experience

- **Amazon** — Shanghai, China
  SDE Intern, Deep Engine-Science — *Jun 2021 - Aug 2021*
  - **Apache MXNet**: Build up Java binding for MXNet 2.0, which allows end2end models to serve inference in Java language. The project is built in Gradle, and we use JNA(Java Native Access) to access mxnet binaries. I optimized JVM memory management for mxnet resources by designing a layered garbage collection mechanism and added CI for the project. Fix some problems in mxnet due to duplicate registration for the signal handler. https://github.com/apache/incubator-mxnet/tree/java2.0.
- **4Paradigm** — Beijing, China
  Software Engineer Intern, NLP Product Team — *Oct 2020 - Jun 2021*
  - **Development**: Do All-Stack development for several ML products. Develop in Spring-Boot, Flask, and Vue. Integrated with the services including Airflow, MinIO, ArangoDB, Mysql, Git. When the performance of the original service couldn't meet the customer's requirements, I improved the efficiency by 400% using python multi-processing and solved the problem of memory leaks using GDB. Also, helped the customer solve the issue of service hanging in Prod due to deadlock in logging, which resulted from docker version defect.
  - **Operations**: Do service orchestration for products in Kubernetes and Docker-Compose. Write infrastructure as code for Kubernetes Cluster by Ansible. Trace problems in different sub-services in the K8S cluster due to resource exhaustion in Memory, CPU, and GPU. Once, we even met up with the issue in Etcd due to Hard disk bayonet damage.
  - **Database cluster**: Deploy Master-Slave MySQL cluster, design and realize the plan for Data Backup, Failover, and Recovery in Prod; Investigate the performance of distributed graph database cluster, NebulaGraph, in the aspects of high-concurrent/multi-step query, fault monitoring, and failover. Solve problems during the test by reading the documents provided and communicating with the developers since it is a new product.

Projects

- **Operation on AWS**: Use terraform and packer to manage the lifecycle for a web service on AWS. Build AMI, setup EC2 instances, policy management for IAM, CI/CD on Github, CodeDeploy for deployment, CloudWatch for monitoring, Load Balancing, and Auto-Scaling.