

ZHHAO WANG

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EDUCATION

Carnegie Mellon University, School of Computer Science

Master of Software Engineering

Teaching Assistant: 11-603 Practical Programming with Python (Summer 2022 Semester)

Research Assistant at LTI: Improved infrastructure of *Sail()* platform for supporting CMU courses

Pittsburgh, PA

Aug 2021 – Dec 2022

China University of Mining and Technology, Beijing, School of Science

Bachelor of Science in Information and Computing Science

Beijing, China

Sep 2013 – Jun 2017

Peking University, National School of Development

Bachelor of Economics (double major)

Beijing, China

Sep 2014 – Jul 2017

WORKING EXPERIENCE

data.ai (formerly App Annie)

Senior Backend Software Engineer & Scrum Master

Beijing, China

Feb 2018 – Jul 2021

- Designed and built a new unified connection workflow to migrate 30+ platforms to microservices with a scalable solution to complete Apple and Google's Multi-Factor Authentication, reducing time cost by 50+% and improving success rate by 30+%.
- Migrated legacy data service from monolithic Django application to Flask and Go microservices to ECS by implementing unified query language translation, data aggregation and permission control, improving website & API performance by 50+%.
- Upgraded internal Node.js scraping framework by integrating puppeteer to support browser-based scraping; added Firebase integration by implementing data scraping and ETL tasks, making data.ai the 1st company to support Firebase in the industry.
- Designed and built internal troubleshooting tools and established monitoring dashboards and to quickly locate issues with user authentication, data scraping and ETL jobs, reducing Mean-Time-To-Repair by 50+% from 3+ days to 1~2 days.
- Built Connect Source Analysis Report and Ascend UI including visualizations, connection and user management using React.
- Led a Scrum team of 6+ as Scrum Master and facilitated team toward goals by coordinating with external teams, and hosting sprint planning meetings, daily Scrum meetings to manage projects, and retrospectives to help team locate issues.

VIPKID

Software Engineer & Software Engineer Intern

Beijing, China

Aug 2016 – Feb 2018

- Developed microservices with Flask, gRPC, Java, SpringBoot to support VIPKID App, VIPKID School, internal systems, etc.
- Constructed asynchronous task system with Celery for Dino English App and its WeChat platform.

SELECTED PROJECTS

Troutwood Enterprise Portal

Development Lead | CMU MSE Studio Project | Jan 2022 – Dec 2022

- Designed architecture and led software development including setting up GitHub and AWS infrastructures with CI/CD pipeline, and standardizing working processes to facilitate PoC, development, testing, and deployment. Tech stack: React, GraphQL, Lambda, Amplify, AppSync, S3, CloudFormation, EventBridge, Figma, etc.
- Implemented Scrum for team of 5 by setting up Scrum process and norms with toolchains and workflows.

Resource Scheduling in Kubernetes

CMU Advanced Cloud Computing | Mar 2022 – Apr 2022

Designed and implemented various k8s job scheduling policies using k8s scheduler extender and Gang scheduling with kube-batch scheduler. Optimized performance of policies based on job completion time and computing resource preferences.

ETL Processing on AWS using Apache Spark

CMU Advanced Cloud Computing | Feb 2022 – Mar 2022

Designed and implemented high-performance and cost-effective ETL jobs to process a large web-crawled corpus (~100GB before uncompressed) and ML training jobs using Apache Spark and HDFS on Amazon EC2.

Distributed Bitcoin Miner

CMU Distributed Systems | Sep 2021 - Oct 2021

Built a TCP-like network protocol atop UDP; implemented bitcoin miner with failure handling and round-robin load balancing.

Peking University Course Trading Market

Founder & Developer | Independent Project | Dec 2016 - Feb 2018

Created a third-party information exchange platform to facilitate course swapping with Flask and Node.js.

SKILLS

Programming Languages: Python, Go, JavaScript, Java, C, SQL, R

Data Storage: MySQL, PostgreSQL, MongoDB, Redis, Amazon RDS, S3

AWS: *Certified Solutions Architect*, EC2, ECS, S3, Lambda, Amplify, Step Functions, CloudWatch, IAM, Terraform, etc.

Tools & Frameworks: Flask, Django, React, Spark, Docker, Kubernetes, Git, Jenkins, GraphQL

DevOps: Sentry, Kibana, New Relic, Datadog, Amazon CloudWatch