ZHIHAO WANG

+1 (412) 214-2196 | zhihaowang@cmu.edu | linkedin.com/in/zhihao-wang

EDUCATION

Carnegie Mellon University, School of Computer Science — Pittsburgh, PA
Master of Software Engineering — Aug 2021 – Dec 2022

China University of Mining and Technology, Beijing, School of Science — Beijing, China
Bachelor of Science in Information and Computing Science — Sept 2013 – June 2017

Peking University, National School of Development — Beijing, China
Bachelor of Economics (double major) — Sept 2014 – July 2017

PROFESSIONAL EXPERIENCE

App Annie — Beijing, China
Senior Backend Software Engineer & Scrum Master — Feb 2018 – July 2021

- **Connect Backend Services**
  - Designed and built new unified connection workflows to migrate 30+ platforms to microservices with a scalable solution to complete 2FA, which reduced time cost by 50% and improved success rate by 30%. Established monitoring and troubleshooting tools to promptly react to third-party platform changes.
  - Migrated legacy data service from monolithic Django application to 7 *Python* and *Go* container-based microservices. Designed and implemented unified query language translation, data aggregation and data permission control.
  - Led many other projects including alert improvement, proxy management, *Python* 2to3 upgrade, from requirement analysis and technical design to deliverable and day-to-day maintenance.
- **First-Party Data Platform Backend Tasks**
  - Maintained scraping tasks and promptly reacted to platform changes. Developed internal tools for troubleshooting and enhanced monitoring to quickly locate issues, reducing Mean-Time-To-Repair by 50%.
  - Upgraded internal *Node.js* scraping framework by integrating puppeteer to support headless browser-based scraping tasks and supported Google Firebase integration by implementing browser-based scraping tasks and ETL tasks.
- **Front-end Development**
  - Learned *React* from scratch and built *App Annie Connect* Source Analysis Report.
  - Built *App Annie Ascend* UI including data visualizations, connection management, and user management using *React*.
- **Scrum & Agile Project Management**
  - Led a Scrum team of 6+ and facilitated the team's progress toward goals by coordinating with external teams in different time zones, and hosting sprint planning meetings, daily Scrum meetings to manage projects, and retrospectives to help the team locate issues.
- **Best Engineering Excellence Award in App Annie Hackathon**
  - Built *App Annie Distributed Configuration Management System* which allows engineers to easily manage the configurations of Flask-based backend services on various environments with user-friendly UI.

VIPKID — Beijing, China
Backend Software Engineer — July 2017 - Feb 2018

- Built backend services and asynchronous task system for VIPKID Dino English App and its WeChat platform.
- Developed resource management and course booking management using Sprint Boot for VIPKID School.

Backend Software Engineer Intern — Aug 2016 - July 2017

- Supported parents booking courses, students downloading learning materials for VIPKID mobile applications using gRPC.
- Built an internal ticket system on which engineers send requests for application change, database change, and testing.

ADDITIONAL PROJECTS

Distributed Bitcoin Miner — Sept 2021 - Oct 2021
Built a TCP-like network protocol (LSP) on top of UDP (using *net* package of *Go*) with capabilities of handling lost, duplicated, or corrupted Internet packets, as well as failing clients and servers; implemented bitcoin miner, client, and server with failure handling and round-robin load balancing on top of the LSP.

Raft Consensus — Nov 2021
Implemented Raft Consensus Algorithm with leader election and log replication in *Go* based on the paper *In Search of an Understandable Consensus Algorithm*.

Peking University Course Trading Market — Dec 2016 - Feb 2018
Created a third-party information exchange platform with both website and WeChat Mini-Program, which facilitated course swapping among students at National School of Development at Peking University.

SKILLS

Programming Languages: Python, Go, JavaScript, Java, SQL
Data Storage: MySQL, PostgreSQL, MongoDB, Redis, Amazon S3
Frameworks: Flask, Django, React
DevOps: Docker, Sentry, Kibana, New Relic, Datadog