Fengyi Zhang

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EDUCATION

University of Illinois Urbana-Champaign **Champaign, IL**

Master of Computer Science *Aug/2022-Dec/2023(expected)*

Shandong University **Weihai, China**

Bachelor of Engineering in Computer Science & Technology (w/Honors) *Sep/2017–June/2021*

- **Overall GPA:** *3.8/4.0*
- **Relevant Courses**: *Data Structure & Algorithm, Computer Networks, Introduction to Database, Operating System*

PROFESSIONAL SKILLS

- **Programming Languages:** *Golang, C/C++/C#, Python, PHP, SQL, Java, HTML/CSS/Javascript, MATLAB, Shell*
- **Frameworks &Toolkits:** *.Net, Azure, Thrift, Gin, CodeIgniter, Tensorflow, MeTA, Keras, Numpy, Pandas, Scipy*
- **Software:** *Git, MySQL, Apache, Nginx, Jenkins, Docker, Unity, Wireshark, Postman, Jmeter, Linux/Mac OS*

PROFESSIONAL EXPERIENCE

Microsoft **Suzhou, China**

Software Engineer, STCA *Jan/2022—Aug/2022*

- Designed a PC-Phone paring flow which seamlessly transfers Microsoft account authentication from Windows PC to Android phones by QR/Accessibility code, including sequence diagram, specification documents and implemented **8** ***RESTful APIs*** with ***Swagger*** and ***.Net*** Framework.
- Employ **long polling**, **cancellation token** and **TCP connection reusing** to mitigate pressure on server, **JWT** of crypto device info to build trust relationships, and **dynamic link** techniques to redirect user to appropriate activities
- Leverage ***Azure Service Fabric*** for microservice architecture, ***Global Redis*** to cache paring sessions and channel info, and ***Azure SignalR*** to manage WebSocket connection and data transport
- Built above **2000** lines of unit tests, functional tests and end-to-end tests to guarantee the reliability of service, and constructed load test scripts using ***JMeter*** and ***Jenkins***, raising pairing success rate to **97%** given **RPS** of **720**
- Defined metrics and recorded logs for data telemetry and analytics with ***Kusto*** (SQL), based on which add API management policies such as whitelisting and current throttling to improve service availability.
- Increased completion rate of PC-phone linking during Windows OOBE(Out-of-box experience) from **28.3%** to **35.4%** and expected a gross of **90 million** increases on mobile app downloads and sign-ins

Didi Global Inc. **Beijing, China**

Software Development Engineer, Map Architecture Group *July/2021-Dec/2021*

- Refactored **6** APIs of Point of Interest (POI) service that serves **15 million** users per day from ***PHP*** to ***Go***, among which **CPU idle time** improved to **73%**(36% BEF) and **TP99 latency** reduced by **51%** given **QPS** of **2000**
- Divided business process into pluggable modules with inner workflow engine and replaced **8** ***RESTful APIs*** with Didi ***RPC*** (DiRPC) protocol with ***Service Discovery*** (DiSF) components for better **SOA governance**
- Applied **A/B testing** to realize canary deployment, configuration synchronization and strategy experiment, and employed metrics components to trace logs generated during service context for trouble shooting
- Managed online metric alarms (error ratio, latency etc.) of over **22** APIs and **16** downstream services while on-call

Alibaba Cloud Co., Ltd. **Hangzhou, China**

Software Development Engineer Intern, Cloud Security Group *July/2020–Sept/2020*

- Restructured **3** modules on anomaly **alarms aggregation** and **pushing** for Anti-DDoS server clusters with ***Golang***
- Chaired project of **route traceback** based on by-pass sniffing for **SLA monitoring** and network fault location
- Constructed **spoofed source VIP** packet sequences with **increasing TTL** fields to specific endpoint using ***Scapy***
- Employed **traffic mirroring** service for packets capturing and **asynchronous I/O** with call-back filtering function
- Delivered on **Advanced Anti-DDoS** clusters while being **elastically extendable** via **configuration** files

PROJECT EXPERIENCE

Intelligent Autonomous Vehicle **Weihai, China**

Software Developer *Jan/2018-July/2019*

- Programmed over **5,000** lines of ***C*** code on ARM cored microcontrollers including **K6x** and **LPC** series
- Applied **OSTU** algorithm and multiple filtering methods for **threshold segmentation** and **image denoising**
- Implemented **fuzzy PID controller** and optimized it with **separate integral** and well-tuned parameters
- Achieved smooth beacon chasing with speed up to **3 m/s** while avoiding crushing on obstacles flexibly