# Xianglong Liu

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## Education

**Carnegie Mellon University Silicon Valley** — *Mountain View, CA*
M.S. in Software Engineering — *2019 - 2020*

## Working Experiences

**ByteDance** — *Beijing, China*
Software Engineer, Backend — *Sep. 2017 - Aug. 2019*

- Developed highly scalable and robust backend microservices using Golang, to optimize the user experience for over **50 million DAU**.
- Designed and implemented systems based on private cloud infrastructures to deliver new features for biweekly iterations of our product.
- Built product metrics, data warehouses, and launched A/B Tests to exploit product potentials.

**Sohu.com** — *Beijing, China*
Software Engineer, Big Data — *Aug. 2015 - Sep. 2017*

- Built highly reliable workflows for the ML model training and implemented an online prediction system to improve advertisement profits.
- Restructured the ETL(Extract-Transform-Load) process and implemented a web portal to visualize user action data.

**VMware** — *Beijing, China*
Member of Technical Staff Intern — *Nov. 2012 - May 2013*

- Built migration and deployment tools for a open-source PaaS platform cloud foundry.

## Major Projects

**Launched A Cross-Platform Video APP** — *ByteDance*
Related Tech:Golang, RPC, MySQL, Redis, Nginx, Docker, CI/CD

- Designed and implemented backend microservices to serve the basic scenario of watching videos.
- Develped the content management system from ground up, enriching the video contents that users consume.
- Built the private networking architecture with external content partner, ensuring the security of content.

**Optimized Legacy Systems Performance** — *ByteDance*
Related Tech: Golang, Mysql, Redis, Python, A/B Test

- Refactored API gateway module by changing **python** into **Golang** implementation, reducing **80%** server resource cost.
- Refactored user interaction module, adding local cache and sharding DB instances by which the throughput increased by **400%**.
- Leveraged unit tests, CI and CD to avoid unexpected defects introduced by refactoring.

**Optimized Advertisement CTR model training workflow** — *Sohu.com*
Related Tech: Azkaban, Java, Haddop, Spark

- Optimized the offline workflow of training advertisement CRT models by parallelizing independent Hadoop batch training steps, reducing about **35% running time.**
- Expedited online streaming workflow with **Spark-Streaming** and made it in compliance with different machine learning algorithms.

**Developed a personalized recommendation engine** — *Sohu.com*
Related Tech: JVM, Spring Framework, Zookeeper, CI

- Designed the architecture of the system and built the first online version from ground up.
- Set up continuous integration environment, reducing the deploying cost.
- Tuned JVM parameters to optimize the performance. Increased instance throughput by **20%**.