Zelong Qiu

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PROFESSIONAL EXPERIENCE

Citadel Americas LLC **New York City, NY**

Platform Engineering Team *Apr 2019 - Present*

- Design and build the **Citadel Task Service** as a distributed, cloud native, asynchronous queue system that enables Commodity, Credit and Global Fixed Income quant research teams to train QR models at scale. Replace legacy task queues such as the MDL and the Orc Queue. Achieve significant cost saving and performance gain.
- Implement all components for CTS such as controller, high-throughput data pipeline, failure detection, task status view server, auto re-queue etc. using Python, Kafka, Memcached, Datadog, Splunk, Nginx and MySQL.
- Design and build the **Citadel Kafka Service** as the centralized messaging infrastructure for all post trade management, trading monitoring, risk control etc. across Citadel Asset Management and Citadel Security. Replace Citadel's usage of third-party legacy data pipelines such as AMPS, Tibco, IBM MQ. Achieve significant cost saving and performance gain.
- Automate the deployment and upgrade processes for Kafka clusters using Ansible Playbooks.
- Build RestAPI, Service Manager UI, and command line tool for user to manage their CTS/CKS resources.
- Build the monitoring and alerting system on key metrics and customized condition for CTS and CKS systems using Telegraf, Splunk and DataDog. Provide users with auto generated monitoring and alerting suits.
- Act as primary owner of both CKS and CTS and first responder for daily operational tasks and occasional production issues. Supervise two junior engineers in the team as tech lead.

Microsoft **Redmond, WA**

Software Engineer *Mar 2017 – Mar 2019*

- Designed and built **Microsoft Machine Learning Server** to enable users productionize customed ML models as micro-service with pre-defined APIs in Kubernetes system using RestAPI, Docker, .Net Framework, Python and R.
- Designed and built server-side and client-side SDK features including:
  - **Real-time Scoring**: offered extremely low request-response latency and high concurrent throughput for large dataset. Achieved 10 to 100X performance gain.
  - **Dedicated Service Pool**: provided dedicated resources, initiated Python/R interpreter and pre-loaded dependencies for user selected ML models. Dramatic improved overall performance for large models.
  - **Asynchronous Batch Execution**: complemented the original Request-Response prediction paradigm with parallel row execution, asynchronous consumption and partial results. Greatly speeded up scoring time for large dataset with long running services.
- Provided presentations and technical support to external and internal customers regarding new releases.
- Conducted exploratory greenfield Proof of Concept projects including IoT edge device image recognition and large-scale natural language process with ML Server.

Software Engineer Intern *Jun 2016 – Aug 2016*

- Built a martingale-based time series anomaly detection module for **Azure Machine Learning Studio.**
- Implemented algorithms for level changes detection, trend changes detection and seasonality identification.
- Technical blog at https://msdn.microsoft.com/library/azure/96b98cc0-50df-46ff-bc18-c0665d69f3e3.

EDUCATION

Princeton University **Aug 2021 – May 2023(Expected)**

Princeton, NJ

Master of Finance

Harvard University **Aug 2015 - Mar 2017**

Cambridge, MA *GPA 3.71/4.0*

M.S in Computational Science and Engineering

University of Illinois Urbana Champaign **Aug 2010 - May 2015**

Urbana, IL *GPA 3.66/4.0*

B.S in Applied Mathematics [High Distinction]

B.S in Industrial Engineering [Honor]