

# YI ZHAO

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## Education

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### Rice University

*Master of Science, Computer Science (GPA: 4.00/4.00)*

Sept. 2021 – Expected Dec. 2022

*Houston, TX*

### Southern University of Science and Technology

*Bachelor of Science, Computer Science and Engineering (GPA: 3.89/4.00, rank: 1/146)*

Sept. 2016.09 – July. 2020

*Shenzhen, China*

## Experience

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### Tableau, Salesforce

*Software Engineer Intern*

May. 2022 – Aug. 2022

*Palo Alto, CA*

- Designed an end-to-end event-driven architecture based on **Spring boot, React/Redux, Grpc** and **ActiveMQ**, integrating Salesforce Einstein Discovery predictive capabilities seamlessly into the Tableau ecosystem
- Resolved highly concurrent I/O bounded tasks with **ThreadPool**, increasing system throughput by 80%
- Constructed a multi-way(email / slack / webpage) notification module by utilizing functionalities of Tableau Infrastructure, supporting site isolation with **Spring Transaction Management** and **Hibernate (PostgreSQL)**
- Involved in endpoints efficiency optimization, improving SQL query performance by 50% with refined database index
- Provided and continuously refined technical design document, keeping 80+% unit test code coverage

### ByteDance

*Software Engineer*

July. 2020 – July. 2021

*Shenzhen, China*

- Implemented a scalable, resilient micro-service backend architecture with **Spring cloud, Spring boot** for the high frequency online transaction and procurement, achieving 99.99% SLA
- Implemented a multi-level efficient text query architecture over 10 million goods data with **Redis, Elasticsearch** and well-constructed index, reducing API average response time by 90% (from 5s to <0.5s)
- Proposed and implemented technical solutions to refactor a monolithic application into micro-service architecture, integrated **RocketMQ** and **Seata** (from Alibaba) Framework to ensure distributed transaction consistency
- Encapsulated SDKs for **Kafka, Redis, Hive, Elasticsearch, EasyExcel**, whole-chain log tracing, gateway rate limiting modules into public starter packages; Built-up **DDD**-theory based project skeleton
- Used **Jenkins** (ByteCloud) pipeline to build artifacts, push to **Docker** registry and deploy to **Kubernetes**
- Monitored online services and performed troubleshooting with **jstack, jmap, Arthas, Skywalking, jProfiler** and **Arthas**

### Cloudberry - University of California, Irvine

*Research Assistant*

June. 2019 – Oct. 2019

*Irvine, CA*

- Implemented a middleware with **Play!** to support interactive exploration and visualization over large relational datasets
- Improved randomness of the data distribution to accelerate time-range based **PostgreSQL** query by 50%
- Implemented full-duplex end-to-end communication with **Akka Websocket**, supporting incremental data-driven rendering; Accelerated frontend rendering by exploiting GPU computing power with **Deck.GL**

## Projects

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### **ThreadLocalCache** | *Java, Spring, AspectJ, Gson, Guava*

January 2021

- Implemented a universal solution for caching and accessing time-consuming RPC or HTTP invocation results within thread, avoiding duplicated queries to be issued within the lifetime of a worker thread
- Integrated with **Spring WebMvcConfigurer** to actively control the creation and destruction of ThreadLocal caching object, avoiding Out of Memory Crashes

### **CheetahVIS** | *Java, Spring, Vue.js, Apache Spark, Apache Echarts*

November 2020

- Implemented an interactive visual analytical system for efficient massive urban bus data analysis
- Built an efficient distributed spatial computation workflow scheme backed by **Apache Spark**; Implemented a versatile visual analysis dashboard based on **Apache Echarts**, encapsulated high-level functions to support inter-related analysis

## Honors and Awards

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*Spot Bonus* for Outstanding Work, ByteDance

March. 2021

*Bronze Medal*, ICPC East-Asia Continent Final

Dec. 2018

## Technical Skills

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**Programming Languages:** Java, C++, Python, Scala, TypeScript, JavaScript, SQL, Shell, Go, PHP

**Tools and Frameworks:** Spring, React, Redux(thunk / saga), Django, Gin, Vue, Jasmine, JUnit, Mockito, Git, Docker, Kubernetes, Jenkins, ELK, Splunk, Skywalking, jstack, jmap, Arthas, Spark, Flink

**Middlewares and Systems:** MySQL, PostgreSQL, MongoDB, Elasticsearch, Hive, Spark, Redis, RocketMQ, Kafka

**Programming Capabilities:** Data Structure, Algorithm Design and Analysis, Object Oriented Design, Test Driven Design (TDD), Domain Driven Design (DDD)