

# Zhuoyue (Joey) Wang

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## SUMMARY

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Results-driven Software Engineer with a solid foundation in **infrastructure development**, specializing in **database kernel**, with over **3 years of experience** and an **M.Eng. degree in Computer Science** and strong skills in **C/C++/Python**. Keen on applying expertises to tackle new challenges within the trading/hedge fund/finance industry.

## CURRENT WORK EXPERIENCE

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### Senior Member of Technical Staff

Oracle

July 2020 –

Redwood City, CA/New York City, NY

- Specialized in **C language** for **Oracle SQL In-memory database kernel** development, with a focus on memory storage
  - Primary Scope of Work: Storage-Pool-Member (Persistent Memory (PMEM) Storage Component):**
    - Experienced owner of SPM code who effectively collaborated with engineers from diverse teams to ensuring the seamless integration and functionality on the component within the database system.
    - Designed and implemented reliable, performant memory allocation/deallocation routines with multi-thread/multi-instance concurrency and recovery support at the terabyte scale.
    - Developed highly efficient background memory management solutions, optimizing space performance and reducing client operation latency through techniques like deferred memory clearing, RDMA region auto extend, memory defragmentation, and log/user data region rebalancing.
  - Selective Project: The Engine Out-Of-Resource (EngOor) project:**
    - Launched an infrastructure project addressing memory space constraints when consuming data, resulting in improved diagnostics and possible mitigations.
    - Designed the infrastructure framework, collaborating with cross-functional teams. The aspects include Resource Monitoring, Automatic Mitigation & Logging and Alerts.
    - Successfully implemented the infrastructure and served as the primary POC for framework-related inquiries.
    - Presented the project to a large audience of approximately 100 people, including Head of Oracle SQL Org.
- Non-Technical: Revised new hire guide on Oracle Database kernel development, resulting in reduced learning curves for incoming team members. Mentored junior hires and organized team outings events.

## PROJECT EXPERIENCE

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### Simple TD Ameritrade Trading Bot (C++) (Ongoing)

- Developing TDA account authentication and implementing core functionalities of the Account class, including balance, margin, and equity tracking.

### Simple Binance Crypto Trading Bot (Python)

- Developed and deployed a crypto trading bot that executes buy and sell orders based on a predefined trading strategy.
- Integrated with the Binance API and utilized the web socket protocol for real-time OHLC price data. Configured technical indicators and created bot instances for multiple cryptocurrency pairs.
- Designed a crypto trading workflow encompassing decision-making for opening and closing long or short positions.

## PAST WORK EXPERIENCE

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### Software Engineer Intern

Wayfair

June 2019 – August 2019

Boston, MA

- Developed the 3D product scene selection feature (PHP, JavaScript, MySQL), and reworked on the related schemas in the internal catalog system database (500,000 records), achieving a notable 30% improvement in query efficiency.

### Software Engineer Intern

NextCapital

January 2019 – May 2019

Chicago, IL

- Utilized full-stack technologies (Ruby on Rails, MySQL) to build web pages in the investment portfolio platform.

### Software Engineer Intern

Trustwave

August 2018 – December 2018

Chicago, IL

- Designed and implemented the LogCollection and HashContent components in C++ for Apache MiNiFi, an open-source framework, improving data flow capabilities in ETL pipelines.
- Integrated Apache MiNiFi, Kafka, Elasticsearch, Kibana and Logstash to enable real-time streaming analytics on files, delivering valuable insights and analysis.

## EDUCATION

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### University of California, Berkeley

Master of Engineering in Electrical Engineering & Computer Science

GPA: 3.72/4.0

August 2019 – May 2020

### University of Illinois at Urbana-Champaign

Bachelor of Science in Computer Science

GPA: 3.91/4.0

August 2016 – May 2019

## SKILLS

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**Languages:** C, C++14/17/20, Python 2/3, Java, React, SQL, HTML/CSS/JavaScript, Ruby, PHP, Shell, R

**Tools:** Linux, Unix, Git, MySQL, NoSQL, Docker, Eclipse, Android Studio, Xcode, AWS, RESTful API, Elasticsearch/Kibana/Logstash, Apache MiNiFi, Kafka, Ruby on Rails, JIRA, Tableau, OAuth

**Skills:** data structure, **system programming**, full-stack development, data analytics, machine learning, **distributed system**, parallel computing, statistics & probability, calculus, linear algebra, basic accounting & finance, Blackjack, Texas Hold'em

**Accomplishment:** SAT score: 2080; University Honor (Top 3% in college); UC Berkeley Scholarship Recipient; Engaged in stock trading with an annual return of 30% (in the best year); Served as a board member in a college club