Kaipeng Wang

wangcarpe@gmail.com | +1-410-301-97-49 | linkedin.com/in/kaipeng-wang/ | github.com/Carpe-Wang

Education

Johns Hopkins University, MSE in Computer Science   Jan 2024 – May 2025
- **Course:** Computer Systems, Wireless Network, Building Scalable Distributed Systems, Advanced Software Development.

Henan University of Technology, BS in Internet of Things   Aug 2019 – July 2023
- **Course:** Data Structures and Algorithms, Computer Programming, Data Processing and Analysis, Calculus, Web Development.

Work Experience

Bili – An AI Startup Company   Dec 2024 – Now
*Software Engineer Tech: **Python, CrewAI, TypeScript, Redis, PostgreSQL***   *Remote, United States*
- Architected and implemented **CrewAI** system achieving **95%** accuracy in format-specific outputs, integrated with real-time frontend rendering using **TypeScript** and **React**.
- Optimized RAG implementation with **PostgreSQL** vectorization, resulting in **40%** faster query response times and **30%** improved data retrieval accuracy.
- Engineered high-performance **Redis** caching system handling **10,000+** concurrent requests, reducing latency by **60%**.

Ant Group(Alipay) – The Largest digital payment company in China.   Jul 2023 – Jan 2024
*Software Engineer Tech: **Java, Git, MySQL, Redis, Distributed Systems, Alibaba Cloud, System Design***   *HangZhou, China*
- Engineered automated label management system using **Java** and **Spring Boot**, processing **100,000+** daily requests with **99.9%** accuracy and reducing manual operations by **75%**.
- Developed AIGC keyword system utilizing **Redis** and **MySQL**, improving efficiency by **40%** while handling **1M+** users.
- Implemented filtering system with **distributed caching**, achieving **<50ms** response time for **10,000+** requests.

Dora – Startup, Product Hunt Champion of the Year 2023.   Jul 2022 – Jan 2023
*Software Engineering Intern – Tech: **Java, Shell, PostgreSQL, Redis, AWS, Elasticsearch, Kafka, Kubernetes***   *Beijing, China*
- Optimized **Elasticsearch** architecture by implementing custom sharding strategy, reducing index count from **1000** to **1**.
- Engineered **Groovy** scripting engine processing **10,000+** automation tasks with **95%** success, reducing time by **70%**.
- Implemented synchronization using **distributed locks** and **Kafka** messaging, supporting **500+** users with **zero** data conflicts.
- Built high-throughput message processing system with **RabbitMQ**, handling **50,000+** messages/second.
- Automated pipeline using **Shell** scripts and **Kubernetes**, reducing time by **80%** and achieving **zero-downtime** updates.

JD.com, Inc. – One of China's largest e-commerce platforms   Sept 2021 – Nov 2021
*Software Engineering Intern – Tech: **Java, PostgreSQL, Redis, MongoDB, JWT, Nginx***   *Beijing, China*
- Developed credit platform APIs using **Spring Boot** and **Redis**, reducing time by **20%** while handling **1M+** transactions.
- Architected "Chaos Blade" using **Java** and **JMeter**, simulating **100,000+** users and identifying **95%** of system failures.
- Enhanced monitor with **ELK Stack**, achieving **25%** faster detection and **60%** improved time across **500+** microservices.

Projects

hertzbeat   GitHub Repo
- Optimized processing with **Java** concurrent features, achieving **30%** faster for **10GB+** datasets and **50%** memory usage.
- Enhanced test coverage from **70%** to **90%** using **JUnit** and **Mockito**, identifying and fixing **100+** potential bugs.
- Implemented **WeChat** integration using **Spring Cloud Stream**, delivering real-time alerts with **<1s** latency to **1000+** users.
- Enhanced security with **MFA** and **bcrypt** hashing, reducing unauthorized attempts by **95%** across **10,000+** user accounts.

gson   GitHub Repo
- Resolved timezone handling bugs affecting **30%** of global users, implementing **ISO 8601** compliance across **20+** formats.
- Enhanced date parsing logic reducing parsing errors by **85%** and improving performance by **25%** for **1M+** daily API calls.

Technical Skills

Programming Languages: Java, Python, JavaScript, TypeScript, SQL, Shell, HTML, CSS
Frameworks & Tools: Spring Boot, Spring Cloud, MyBatis, Django, Fast API, React, Node.js, Microsoft Office
Middleware: Redis, RabbitMQ, Kafka, ZooKeeper, Elasticsearch, Nginx
Databases: Snowflake, MySQL, NoSQL(MongoDB, DynamoDB, Cassandra), PostgreSQL, Oracle
DevOps & Cloud: Docker, Kubernetes, Jenkins, Jira, Git, Maven, AWS (ECS, S3, Lambda, RDS)
Testing & Monitoring: JUnit, Mockito, Swagger, Datadog, Prometheus
Development: Microservices, RESTful APIs, Distributed Systems, CI/CD, Test-Driven Development, Agile(Scrum)