朱杰简历

个人信息

姓　　名: 朱杰　　**性　　别**: 男

电子邮件: terryzj@outlook.com　　**移动电话**: 15921075537

工　　龄: 7 年　　**出生年月**: 1989.11

教育背景

2008 年 9 月 - 2012 年 6 月　　同济大学　　软件工程专业　　本科

工作经历

- **2015.4 - 目前**　　**饿了么（阿里巴巴本地生活服务有限公司）**
  核心基础设施部　　技术专家（P7）
- **2014.6 - 2015.4**　　**携程计算机技术（上海）有限公司**
  搜索研发组　　高级软件工程师
- **2012.6 - 2014.6**　　**爱立信（中国）通信有限公司上海分公司**
  业务支撑解决部　　软件工程师

专业技能

- 熟练的 Java 软件开发技术,熟悉常用 Java 类库及其使用场景,尤其对 Java 异步编程有较为深入的理解和实践经验
- 熟练的 C/C++技术, 对 C/C++语言特性有一定深入的理解
- 扎实而全面的软件工程知识,如操作系统,网络,数据库,多线程,高并发,中间件等,对感兴趣的技术有持续深入钻研的精神
- 有良好的编码风格和软件工程的质量意识, 对代码有精益求精的追求
- 喜欢通过单元测试,稳定性测试, chaosmonkey 等来保证程序（尽可能）的无错,对于线上程序的稳定性保障有一定的经验和感悟

其他经历

- 2018 年度阿里巴巴本地生活(饿了么/口碑)黑客马拉松竞赛第二名（担任队长一职）
- 申请 7 项技术专利（初审通过状态）
- 技术宣讲
  - 视频版链接(需要登陆): http://www.itdks.com/Course/detail?id=1410
  - 文字版链接(无需登录): https://juejin.im/post/597569cff265da6c436759b9
- 知乎专栏技术分享: https://zhuanlan.zhihu.com/p/29175195

主要项目经历简介

2015.4 - 2017.9　　饿了么数据库中间件

项目简介:

从零开发的基于 Java/Netty 的 mysql/Postgres 数据库中间件(应用层->中间件->数据库)，以纯异步的方式适配大部分 mysql/Postgres 协议，以及限流,降级,熔断,分库分表等功能,对饿了么近万个数据库实例进行保护和优化

Qcon 介绍: http://2016.qconbeijing.com/presentation/2883/

类似产品: MyCat，阿里云 DRDS

工作内容:

参与并主导了大部分主要功能的开发，包括但不限于:

1. MySQL 和 Postgres 协议包和 SQL 解析，重写，路由
2. 后端数据库连接复用,读写分离，单维度和多维度分库分表,
3. 全局唯一 ID 的设计和实现
4. 适配各个语言连接 driver 的行为，并开发基于饿了么数据库使用场景的 jdbc 连接池

成就:

1．该系统承载了整个饿了么日均千万级订单量下所有业务的全部 SQL,保障了数据库的稳定可靠

2．通过实现对客户端透明的分库分表，在满足多语言(java/python/go)前提下，完成亿级数据量的订单等核心库稳定过渡到多库多表的结构，数据库访问平均耗时降低 70%

3．通过基于映射表实现的多维度分库分表,满足了复杂多维度查询需求

4．深度调研 druid(SQL 语法解析库)和 jdbc 内部实现，提出并修复数个缺陷:

https://github.com/alibaba/druid/issues?&q=+author%3Aterryzhu+

https://github.com/pgjdbc/pgjdbc/pull/909

软件开发平台与技术: Java, Netty，异步

2017.10 - 2018.5　　饿了么内存数据库

项目简介:

参照 facebook scuba 论文设计思想，从零开发的基于 Java/C++的列式分布式内存关系型数据库，满足了用户希望以 adhoc(无表结构定义的自定义查询)方式查询数据的需求

公开介绍: http://blog.itpub.net/31545814/viewspace-2285405/

类似产品: facebook scuba (打开速度较慢)

工作内容:

1. 构建多节点聚合树的 MPP(大规模并行处理)架构实现
2. 单节点列式向量化聚合计算逻辑的实现

成就:

1. 秒级响应亿行数据的查询
2. 上线后没有因本人代码错误导致的造成程序退出的严重异常(如 coredump)

软件开发平台与技术: C++

2018.6 - 现在　　饿了么监控系统

项目简介:

饿了么自研的监控系统包含了埋点 SDK，后端指标(Metrics)聚合计算，链路追踪(Tracing)，报警，以及前端展示面板等. 它存储了饿了么所有的监控数据. 是饿了么排查问题时不可或缺的一部分.

类似产品:　谷歌 Dapper

工作内容:

1. 设计并优化了消息发送策略(融合了哈希和轮询的方式)
2. 分析性能瓶颈和治理缺陷，以此重构了指标聚合服务(优化线程模型,数据流模型,纠正错误使用姿势等)

成就:

1. 聚合效果提升 9 倍, CPU 消耗降低 50%，从经常冒烟状态优化为稳定承载目前 3 倍流量
2. 通过背压避免了因为大量 GC 导致的性能恶化和雪崩问题，使 CPU 使用率提升了 4 倍
3. 优化治理平台，分离代码和配置，使集群管理更为便捷

软件开发平台与技术: Java

2019.3　　饿了么/口碑黑客马拉松

项目简介:

两天半(连续 60 小时)完成一个开放性题目的产品设计和功能的开发

工作内容:

作为队长，组织团队进行设计思路和方案的讨论，项目进度的把控，以及最后的产品演示

成就:

在资源匮乏的情况下(参赛队伍中人数最少且技术储备最低)获得第二名

2014.6 - 2015.4　　携程数据整合系统

项目简介: 基于 Java 开发的数据整合系统,用于采集并整合来自不同数据源的数据,以提供给搜索引擎使用.

2012.7 - 2014.6　　爱立信定位&Provisioning 系统

项目简介: 基于 Java 开发的移动定位系统，该系统的功能是实现各种通信协议下的手机定位以及基于 Java 开发的 provisioning 通信软件，该系统的功能是实现各种通信服务的订阅

Zhu Jie

Personal Information

Tel: 15921075537 **Working Age**: 7 years
E-Mail: terryzj@outlook.com **Date of Birth**: 1989.11

Education Background

2008.9 - 2012.6 Bachelor Degree of Software Engineering in Tongji University

Professional Experience

- **2015.4 - Present** **ELEME(Alibaba Local Services Co. Ltd)**
  Core Infrastructure Department Technical Expert(P7)
- **2014.6 - 2015.4** **Ctrip Computer Technology Co. Ltd**
  Search R&D Senior Software Engineer
- **2012.6 - 2014.6** **Ericsson (China) Communication Co. Ltd**
  Business Support Solutions Software Engineer

Professional Skills

- Skilled Java software development technology, familiar with common Java libraries and their usage scenarios, have deep understanding and practical experience in Java asynchronous programming
- Skilled C/C++ technology, have a deep understanding of C/C++ language features
- Solid and comprehensive software engineering knowledge, such as operating system, network, database, multi-threading, middleware, multi-idc, etc., have a spirit of continuous research on the technology of interest
- Good coding style and quality awareness of software engineering, and pursue the clean code
- Prefer to ensure the bug-free program (as far as possible) through unit testing, stability testing, chaosmonkey, etc., have experience and insights for the stability of online programs.

Other Experience

- 2018 Alibaba Local Services Compnay (ELEME/Koubei) hackathon Top2 (as Leader)
- 7 technical patents are under applying progress
- Technical Presentation: https://juejin.im/post/597569cff265da6c436759b9
- Technology sharing in Zhihu: https://zhuanlan.zhihu.com/p/29175195

Project Experiences

2015.4 - 2017.9 ELEME Database Middleware

Project Description:

From scratch-developed Java/Netty based mysql/Postgres database middleware (application layer->middleware->database), adapt most mysql/Postgres protocols in asynchronous thread model, as well as resouce limiting, downgrading, fusing, sharding and other functions to protect and optimize nearly 10,000 database instances in ELEME

Qcon Introduction: http://2016.qconbeijing.com/presentation/2883/

Similar Products: MyCat, AliCloud DRDS

Work content:

Participate in the development of most major functions, including:

1. MySQL and Postgres protocol package and SQL parsing, rewriting, routing
2. Back-end database connection reuse, read-write separation, single-dimensional and multi-dimensional sharding
3. Design and implementation of global unique ID system for sharding
4. Adapt the behavior of different language database connection driver (go/python/java), and develop a jdbc connection pool based on the ELEME database usage scenario

Achievement:

1. The system carries all the SQL of all the services under the tens of millions of orders per day, which guarantees the stability and reliability of the database
2. By the implementation of the sharding and the support for multi-language sdk(java/python/go), the core databases/tables(about 100 million records) are stably transitioned to the sharding architecture, and the response time is reduced by 70%
3. The implementation of multi-dimensional sharding based on mapping tables meet complex multi-dimensional query requirements
4. In-depth study of druid (SQL syntax parsing library) and jdbc internal implementation, proposed and fixed several defects:
   https://github.com/alibaba/druid/issues?&q=+author%3Aterryzhu+
   https://github.com/pgjdbc/pgjdbc/pull/909

Platform and Technology: Java, Netty, Asynchronous

2017.10 - 2018.5 ELEME Memory Database

Project Description:

Referring to the facebook scuba paper design idea, from scratch-developed column based distributed memory relational database, it meets the requirement to query data in adhoc (a custom query with no table schema predefined)

Public introduction:http://blog.itpub.net/31545814/viewspace-2285405/

Similar products: facebook scuba

Work content:

1. Implementation of MPP (Massive Parallel Processing) architecture by building multi-node aggregation tree
2. Implementation of column based vectorized aggregation calculation logic in single node

Achievement:

1. The response time for billions of records queries is only 2 seconds
2. There is no abnormality (such as coredump) caused by my code since deployed online

Platform and Technology: C++

2018.6 - Present ELEME Monitoring System

Project Description:
The ELEME self-developed monitoring system includes the client SDK, back-end metrics aggregation calculation, tracing, alarms, and front-end dashboard. It stores all the ELEME monitoring data, which is an indispensable system for troubleshooting.
Similar Products: Google Dapper
Work content:
1. Design and optimize the message routing strategy (combine hashing and polling)
2. Analyze performance bottlenecks and ops defect, redesign the metrics aggregation services (optimize threading model, data flow model, correct the wrong usage, etc.)

Achievement:
1. The aggregation effect is increased by 9X, the CPU consumption is reduced by 50%, and the peek throughput is optimized by 3X
2. Design the back pressure strategy, it avoids performance degradation and avalanche problems caused by a large number of GC, which increases CPU usage by 4X
3. Optimize the ops platform, separate code and configuration, make cluster management easier

Platform and Technology: **Java**

2019.3 ELEME/Koubei Hackathon

Project Description:
Two and a half days (60 hours) to complete product design and development for an open topic
Work content:
As the team leader, organize the team discussion, the design of ideas and solutions, control the progress of the project, and the final product demonstration
Achievement:
Second place in the case of lack of resources (the fewest participants and the lowest technical background)

2014.6 - 2015.4 Ctrip Data Integration System

Project Description: A Java-based data integration system for collecting and integrating data from different data sources for search engines.

2012.7 - 2014.6 Ericsson Positioning & Provisioning System

Project Description:
1. Mobile positioning system is based on Java development, the functionality of this system is the mobile phone positioning under various communication protocols
2. The provisioning system is to realize the subscription of various communication services.