

Fulong Ma

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PROFESSIONAL EXPERIENCE

BYTEDANCE

Nov 2018 – NOW

Back-end Software Engineer

ShangHai

- Participated in the design and development of the teacher-side of the product gogokid as a back-end engineer, including official website and CRM, such as teacher evaluation system and salary calculation system, which were completed mainly by Golang, MySQL, Redis, Elastic-Search, Etc, etc.
- Designed and developed the code tool to generate Golang code by configuration, which makes the code conform to standards and improves development efficiency, such as the code generation of CRUD, error handling, conversion of ORM models, etc.
- Improved the development efficiency and promoted the effective use of the interface IDL. In order to solve the problem of inefficiency of using JSON to transmit between the app and the back-end, promoted the use of serialization and deserialization of Protobuf for the interaction between the app and the back-end, increased the development efficiency and reduced the cost of joint debugging.
- Promoted the landing of Golang's unit testing. Used docker-compose to form a unit testing environment that solves external dependencies, combined GitLab CI/CD to run unit testing and output reports before merging into master code and then improved the efficiency of unit testing and ensure the quality of integrated code.

Selected Project Experience

• Content Manage System (CMS)

Designed the system CMS to generate learning content by educational operational staff, and support students' learning on the app strongly. In the system, activity is the most basic unit of accessing learning content, which not only present the content, but also support some actions, such as taking videos to publish UGC and so on. Besides, the activity is driven by bpm when users are learning the content. In order to solve the multi-version problem, used the kv of Redis to store online content to separate it from content being edited at storage level and added some functions such as multi-version management and seeing previews on the app in advance.

• Teacher Salary Calculation System

At the background of the logical complexity in salary calculation, logic simplification and decoupling were carried out through event-driven. At the same time, used sliding windows to improve calculation stability and reliability and ensured that the window would slide only when there is no abnormality in the calculation process. Sliding windows mainly used Mysql to store data and Redis to record the position of the sliding window of salary calculation.

EDUCATION

Central South University (985)

Bachelor of Computer Science

Sep 2015 – Jun 2019

- GPA: 3.64/4.0(Top 10%), English: CET6
- Honors/Awards: National Encouragement Scholarship (Top 2% of Department), The First Prize Scholarship (Top 5% of Department), Outstanding Graduates (Top 5% of Department), The Provincial First Prize in Mathematical Modeling in China.
- Others: Published a SCI paper named 《A Time and Location Correlation Incentive Scheme for Deeply Data Gathering in Crowdsourcing Networks》 as the first author in 2016.

PROFESSIONAL SKILLS

- Programmer Languages: Golang(frequent), Python/C++/Java (Basic, once used).
- Mysql(frequent), Redis(frequent), Kafka(frequent), Elastic-Search(Basic).
- Understand common network protocol, such as Http, WebSocket, Quic.
- Understand common distributed components and protocols such as etcd.

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教育经历

中南大学 (985)	计算机学院	计算机科学与技术专业	本科	2015.09 - 2019.06
• GPA : 3.64/4.0 专业排名前10% 英语CET6				

工作经历

字节跳动	服务端研发工程师	2018.11 - 至今
• 参与 gogokid 外教侧业务服务端的设计和开发, 承担和维护外教使用的外教官网、内部员工使用的外教 CRM 的开发迭代。		
• 设计并开发 Golang 代码脚手架, 配合 Golang 代码规范落地, 包括项目结构方面达成统一, 提升开发效率如 CRUD 代码的生成, 并全部门内推广使用且加入到新人培训环节中。		
• 提高开发效率, 推动接口 IDL 有效利用。为解决过去对端 API 层接口通过拼 JSON 传输导致字段类型和字段经常出错开发联调效率低的情况, 推动端上和后端 API 层的交互使用 Protobuf 序列化以及反序列化, 有效利用 Protobuf 定义的接口 IDL, 提高开发效率及降低联调成本。		
• 推动 Golang 单元测试落地, 利用 docker-compose 等方式形成了一套解决外部依赖单测环境, 结合GitLab CI/CD 进行自动合码前运行单元测试并输出报告, 提高单测效率及合入代码质量保证。		

项目经历

- 字节跳动 内容管理系统CMS
建设内容管理系统 CMS, 用于教研生产内容, 有效支撑端上进行内容学习如个性化英语学习等场景, 学生, 使用了 Mysql 存储/Redis 缓存/ES 搜索等技术。其中activity 作为最小最基本的资源访问单位, activity 和 activity 之间通过流程编排 bpm 驱动执行。后期为建设多版本能力, 教研内容编辑生产与发布上线分离, 增加多版本管理以及上线内容端上提前预览的能力, 使用 kv 存储线上态的内容, 与编辑态数据进行存储上的隔离解决了多版本的问题。
- 字节跳动 外教评价体系及薪酬计算系统
薪酬计算逻辑复杂, 通过事件驱动进行逻辑解耦简化, 同时使用滑动窗口的思想进行外教薪资计算, 保障薪资计算不会因外界问题出现异常而导致漏算或者算错。主要使用了 Mysql 存储和Redis 记录薪资计算的滑动窗口位置, 保证只有计算过程无异常的情况下才会滑动窗口。

校内经历

- 大二期间作为第一作者, 发表 SCI 论文一篇《A Time and Location Correlation Incentive Scheme for Deeply Data Gathering in Crowdsourcing Networks》。
- 多次参与大学生创新创业, 作为国家级创新训练项目负责人, 完成《基于无人机的铁路异物自动巡检方法研究》项目并结题。

技能清单

- 熟悉 Golang, 了解 Python, Java, C/C++。
- 熟悉 Mysql、Redis、Kafka, 了解http、websocket、quic等网络协议。
- 了解 Linux、Git, 了解 Etcd 等常用分布式组件及协议。

荣誉奖励

数学建模湖南赛区省级一等奖	屈原奖学金	中南大学优秀学生
中南大学优秀毕业生	国家励志奖学金	中南大学学年一等奖学金