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朱 龙超

专注中间件，分布式应用和大数据计算领域问题

工作经历

2017.01 - 至今 **联想研究院**, AR 平台, 计算平台架构师.
- 设计开发了基于视频的三维重建离线训练系统。
- 设计开发了基于图像的云端在线识别系统。
- 设计开发了基于用户行为的 AR 资源推荐系统。
- 负责云端大数据计算环境的运维。
- 基于 Spring cloud 的 AR 业务系统日志埋点与发布管理。

2015.10 - 2017.01 **阿里巴巴**, 平台技术部, 资深研发.
- 设计开发了基于用户行为的特定商品双十一营销项目。
- 开发了会场/详情/购物车/下单链路的营销改造项目。

2011.02 - 2015.10 **CSSRC**, 平台研发部, 架构师.
- 设计开发了共性基础平台。
- 设计开发 android 平台的三维渲染引擎.
- 设计开发了试验数据管理平台.

2009.01 - 2011.02 **CSSRC**, 平台研发部, 高级工程师.
- 参与开发并运维了 GIS 管理平台.

2007.01 - 2009.01 **CSSRC**, 平台研发部, 工程师.
- 参与开发了 GIS 管理平台的地下管线模块.

教育背景

2006.09 - 2008.08 **硕士学位**, 江南大学, 计算应用技术, Oracle-OCP.

2000.09 - 2004.07 **学士学位**, 南京审计学院, 信息管理与信息系统.

项目经历

2017.08 - 至今 **基于卷积神经网络的 AR 云端在线识别系统** 演示.
- 基于 tensorflow 的 inception-v4 卷积神经网络模型，对输入图像进行计算，输分类维度数据 (利用 endpoint 的原始数据)
- 基于输出的向量，利用 faiss 构建搜索索引 (索引支持数据的增删改)
- 基于 faiss 输出的索引，构建分布式搜索服务，实现在线的识别 (以图搜图)

2017.03 - 2017.07 **基于姿态计算的 AR 云端识别系统**.
- 构建基于图像的分布式搜索框架 (netty).
- 构建 mysql(binlog)->rocketmq->jstorm->configcenter 实时监听链路，实现新增模型的实时可搜
- 监听 configcenter 的变化，将新增或修改模型，加载到内存，提供搜索服务。
- 采用一致 hash，将所有模型离散到所有搜索节点上。
- 实现搜索节点的动态扩容，缩容。

2017.01 - 2017.05 **基于视频的三维重建离线训练系统**, 2017 techword 核心项目.
- 构建分布式离线任务系统集群（实现任务隔离，任务 failover 以及 load balance 机制）.
- 对视频数据进行关键帧的抽取，利用 SIFT 对提取的帧进行特征点抽取.
- 对抽取的特征进行 match，并对 match 结果进行校正.
- 依据相机参数以及 match 的结果，计算特征点的三维坐标.
- 依据特征点的三维坐标，match 结果，训练出三维重建模型.

2017.04 - 至今 **基于用户行为的 AR 资源推荐系统**.
- 在前端页面，设备 sdk 以及后端服务中进行日志埋点 (产生 nginx log).
- 构建 log->flume->hdfs->hbase->mysql 的离线链路.
- 构建 log->flume->rocketmq->jstorm->redis 的实时链路.
- 构建用户行为的 metrics 监控系统.
- 基于用户行为构建 AR 资源推荐服务

2017.01 - 至今 **大数据集群和应用系统的建设与运维**.
- hadoop 集群，hbase 集群，spark 集群,zookeeper 集群,rocketmq 集群,jstorm 集群，els 集群的建设与运维.
- 集群的性能指标监控, 时序数据库 (prometheus).grafana(dashboard) 指标大盘

2017.01 - 至今 **AR 分布式业务系统的开发与发布管理**.
- spring cloud 的业务组件日志埋点与发布管理.
- zuul, feign,eureka,config center,hystrix,sleuth,zipkin 等于组件开发

2016.05 - 2016.11 **基于用户行为的特定商品双十一营销项目**, 2016 双十一核心项目.
- 在购物车，交易成功增加用户行为埋点.
- 针对特定商品，特定用户透出特定的优惠资源.
- 根据商品特征，以及用户偏好等进行会场坑位个性化排序.

2016.01 - 2016.05 **会场/详情/购物车/下单链路的营销改造项目** 演示.
- 基于愚公（binlog）实现大卖家库的拆分.
- 缓存击穿保护，增加本地热点缓存，采用 QPS 和 LRU 结合的失效策略.
- RPC 调用链路梳理，优化限流保护的阈值.
- 精通 metaq,notify,tddl,hsf,eagleeye,diamond,configcenter，sentinal，全链路压测等中间件产品

2014.07 - 2015.02 **android 平台的三维渲染引擎** 演示.
- 设计轻量化 CAD 文件格式.
- 设计并开发了轻量化文件到逻辑模型的转换.
- 设计并开发了逻辑模型到物理显示模型的转换.
- 基于 opengl es 开发了 ndk 版本的三维渲染引擎.
- 利用不同缩放级别显示不同精度，顶点缓冲，遮挡模型不显示等技术，来优化渲染帧率

2010.03 - 2012.01 **试验数据管理平台** 演示, 商业化项目, 市场占有率排名第二.
- 负责基于 struts1.2，spring，hibernate，freemake，jbpm 等组件服务框架搭建.
- 基于 Eclipse RCP,EMF,GEF 设计开发动态建模，数据浏览设计，试验流程设计等工具.
- 基于 hbase 搭建试验原始数据存储集群.

2008.05 - 2010.02 **GIS 管理平台** 演示, 荷兰市政项目.
- 设计并开发了地下管线与开挖区域的计算服务.
- 设计并开发 3D 地下管线的渲染模块.
- Oracle spatial 及 geoserver 的运维.

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Focus On Middleware, Distributed Application And Big Data Application

Work Experience

2017.01–now   **Lenovo RT**, AR Team, Computing Platform Architect.
- Responsible for offline trained system of 3D reconstruction based on video.
- Responsible for cloud recognization system based on rgb frame input.
- Responsible for AR resource recommedation system based on user behavior logs.
- Responsible for maintenence of big data and computing components cluster.
- Responsible for Delployment and Log injection of AR cloud platform based on Spring Cloud

2015.10–2017.01   **Alibaba**, Platform Technical Department, Senior Engineer.
- Responsible for the specified item recommedation project to specified user in 1111.
- Develop the project of sima/detail/cart/buy system optimization.

2011.02–2015.10   **CSSRC**, Platform Research Deparment, Architect.
- Responsible for the software product development of IBMS.
- Responsible for 3D Rendering Engine to show CAD file in android platform.
- Responsible for the software product development of TDM.

2009.01–2011.02   **CSSRC**, Platform Research Department, Senior Engineer.
- Develop and maintain the GIS platform(XEIZ)

2007.01–2009.01   **CSSRC**, Engineer.
- Develop the undergroud pipeline management system of GIS platform(XEIZ).

Enducation

2003.09–2006.03   **Master**, Jiangnan University, Computer Application Technology, Oracle-OCP.

1999.09–2003.07   **Bachelor**, Nanjing Audit University, Information Management And Information System.

Project Experience

2017.08–Now   **Cloud Recognizaiton Platform based on CNN and Bow**, Leader, Demo.
- Develop the computing flow of encode image to vector using inception-v4 cnn model in tensorflow framwork.
- Develop the image index server using faiss library, which is privde rpc service using grpc.
- Develop the distributed search server to call image index server.

2017.03–2017.07   **Cloud Recognization Platform based on post computation** , Leader.
- Develop the distributed image search framework using netty.
- Develop the model realtime processing platform, mysql(binlog)->rocketmq->jstorm->configcenter.
- Listenr on datanode of config center,refresh model(3D sparse model) in to memory which datanode is changed
- Let all model can be loaded in different searching node fairly, we use consistently hash algorith.
- The search nodes can be added or removed automatically.

2017.01–2017.05 **Offline trained System of 3D reconstruction based on video**, 2017 techworld core project, Architect.

- Develop the distributed offline job platform(job is isolated, computing node is load balance, job can be transfered to other node when the current node is down).
- Capature the.key frame from video, Extract the feature point using sift.
- Match the feature point of diffrent frame, refine the match result using RANSAC.
- Computing the 3D location of feature point using camera parameter and match result.
- Train the sparse model using 3D point and match result.

2017.04–Now **AR resource recommendation system**, Leader.

- Develop the log collection sdk of javascript version and java version ,each is for web page and android application, log is record in nginx.
- Develop the log offline analysis system(log->flume->hdfs->hbase->mysql)
- Develop the log realtime analysis system(log->flume->rocketmq->jstorm->redis)
- Develop the AR resource metrics monitor system.
- Develop the AR recommedation system based on user access log.

2017.01 - Now **Development and Maintenence of Big Data Cluster and Application**, Leader.

- Development and Maitenence of hadoop cluster ，hbase cluster，spark cluster,zookeeper cluster ,rocketmq cluster,jstorm cluster,els cluster etc.
- Metrics monitor of cluster,collect metrics in time sequence database(prometheus),show the metrics dashboard in grafana

2017.01 - Now **Development and Deployment of Distributed AR Application**.

- Log injection in spring cloud business components, Deploy spring cloud business components.
- Develop spring cloud components of zuul, feign,eureka,config center,hystrix,sleuth,zipkin.

2016.05–2016.11 **Specified product recommedation system for specified user**, Alibaba 1111 core Project, Tech Leader.

- Add the log record in cart and buy system.
- Deliver the specified promotion for specified item for specified user in specified time.
- The item order in sima system is decide by item feature and user preference

2016.01–2016.05 **Sima/detail/cart/buy system optimization project** , Memeber, Demo.

- Split the big seller database using yugong（binlog）.
- Add local cache for some hot item to protect the cache server, the invalidation rule of local cache is QPS+LRU.
- Reduce the rpc calling count to optimze the qps threshold of rpc service
- Good at metaq,notify,tddl,hsf,eagleeye,diamond,configcenter，sentinal，stress test etc.

2014.07–2015.02 **3D rendering engine in android platform**, leader, Demo.

- Design the light format of cad file .
- Develop the parsing module of light format file to logical model
- Develop the module of converting the logical model to physical showing model .
- Develop the 3d rendering view using opengles in android
- Optimize the showing frame performance per second using vetex buffer etc.

2010.03–2012.01 **Testing Data Management System**, Architect, Demo.

- Develop the framework using struts1.2,spring,hibernate,freemake, jbpm ,etc components.
- Develop the designing db model tool using eclipse emf,data navigation tool using eclipse gef and workflow tool using eclipse gef.
- Develop the orignal testing data management cluster using hbase.

2008.05–2010.02 **GIS Platform Demo**.

- Develop the service to computing diging area and underground pipeline whether they are cross .
- Develop the 3D rendering tool to show undergroud pipeline
- Maintain the Oracle spatial database and GeoServer service..