Yintong MA

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EDUCATION

Shanghai Jiao Tong University, Shanghai, China Sep 2013 - June 2017
B.E. in Computer Science & Engineering Major GPA: 3.73/4.0
Major Courses: Operating System, Computer System Architecture, Computer Network, Database Systems, Distributed Systems

R&D EXPERIENCE

Diagnostic Analysis System for Large-Scale Cloud Databases Aug 2017 - Present
Research Development Engineer, Alibaba Cloud Inc *Advisor: Prof. Feifei Li, Staff Engineer Yusong Gao*

- Introduced cloud database system performance model based on queuing theory, abstracting system into resources (eg. CPU) from hardware to DB engine layers connected by queues (eg. driver queue) to guide performance analysis by monitoring utilization, saturation and error events
- Implemented data preparation pipeline with Kafka, Flink streaming and distributed time series database to globally collect, aggregate and store ~20 million per second heterogeneous monitoring metrics with out-of-order events from complicated multi-tier distributed architecture under second-level delay and resolution while retaining 99.9% data accuracy
- Researched and developed database anomaly detection components with time series based ARIMA seasonal models and log based self-learning LCS algorithm to automatically detect over 70 anomaly patterns
- Constructed cloud database auto-ops system to detect anomalous host machines and automate various database maintenance operations; continuously handled over 40 host machine failures and avoided at least 200 possible serious business losses to customers per month

Shared-Bike Distribution Analytics and Visualization System Aug 2016 - June 2017
Research Assistant, Emerging Parallel Computing Center *Advisor: Prof. Bin Yao*

- Collected shared-bike geographic data through packet capturing using Fiddler and web crawling with Scrapy
- Analyzed shared-bike distribution equilibrium degree among city transportation hubs using Spark data clustering algorithm DBSCAN
- Recognized social trends towards shared-bike distribution from data on Twitter with Naïve Bayes algorithm
- Implemented visualization system based on React and Flask, visualized analysis of selected areas

RSS Fingerprinting based Indoor Localization Oct 2014 - Nov 2016
Research Assistant, SJTU Intelligent Internet of Things Lab *Advisor: Prof. Xinbing Wang, Prof. Xiaohua Tian*

- Designed an indoor localization algorithm using Kalman filter and SVM algorithm on data from cellphone motion sensors and Bluetooth access points to recognize user location, increased accuracy to have less than a range of 0.5m bias
- Introduced RSS fingerprinting access point deployment method based on Simulated Annealing algorithm to ensure indoor localization algorithm would attain best precision in theory
- Developed an application of indoor localization on Android platform for Foxconn, including RSS scanning, Map displaying, Pedometer, Info and communication components

SELECTED PROJECTS

Distributed Sharded Key/Value Service May 2019 - July 2019

- Implemented Raft consensus protocol in Golang with leader election, log replication and compaction, and state persistence functions under unreliable network and server crashes
- Developed distributed sharded key/value service with Put, Append and Get method based on a shard master and sharded key/value fault-tolerant storage servers with Raft; provided high concurrent request performance and ensured data consistency under configuration changes and duplicated client requests

Alibaba Cloud Service Level Agreement Platform Sep 2017 - Jan 2018

- Led a team to design generalized SLA business standard for over 100 types of cloud products versus AWS
- Constructed platform to extract, pre-aggregate and store products' unavailable information in real-time with JStorm; distributed MySQL cluster then computed SLA monthly based on scheduled serverless lambda function
- Developed high-available and load-balanced SLA API backend based on Spring-Boot, Docker, ECS and RDS

AWARDS & PATENTS

- First Prize in Shanghai Contest District in Contemporary Undergraduate Mathematical Contest in Modeling in 2015
- Zhehui Zhang, **Yintong Ma**, Yutong Han, Xiaohua Tian, Xinbing Wang, RSS Fingerprinting Based Access Point and Scaling Point Deployment Method for Indoor Localization System, CN105792230A, July 2016

TECHNICAL STRENGTHS

Languages	Java (6+ years), C/C++, Golang, Rust, JavaScript, Scala, Python, HTML, SQL, Bash
Technologies	Flink, Spark, Storm, MapReduce, Kafka, Kubernetes, Hadoop, Spring-Boot, ECS, RDS, Docker
Databases	MySQL, PostgreSQL, InfluxDB, Redis