Lu Liang

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Education

2011-Present **MS** University of Chinese Academy of Sciences Computer Engineering.

2006–2010 **BA** Wuhan University Geographic Information System.

Projects

2012.11-Present Complex spatial computing platform Linux, C++ National 863 project

Introduction This project is meant to develop a high performance spatial data analysis platform. It is consist of: a set of spatial analysis algorithm, parallel computing framework based on MPI, in-memory spatial data access layer and algorithm evaluation model and tools.

My works *1) develop a spatial data access layer based on in-memory database Redis.* features includes spatial data type extension, data serialization and compression, data ETL and Persistence, thus simplifies spatial data access and reduces IO overhead.

2) develop a parallel spatial data processing framework based on MPI. features includes data partition, task mapping, loading balancing and task reduction, thus simplifies implementation of spatial analysis algorithm and boosts parallel proficiency.

3) study algorithm evaluation model and develop test and evaluation tools. features includes auto tests of multiple cases of algorithm along with evaluation model computing and visualization.

2010–2011 High performance spatial middle-ware Windows, C++ National 863 project

Introduction This project is meant to develop a set of parallel spatial data analysis middle-ware..

My works *I've implemented a single-threaded, multi-threaded(OpenMP) and multi-process(MPI) version of parallel geometric mesh construction algorithm and interpolation algorithm..*

Community

Blog wchar.org *technology blog in Chinese,* record programming experiences, up to 200 journals.

StackOverflow stackoverflow.com/users/1607051/lulyon *Q&A > 150, Reputation > 2k,* top 2%.

OnlineJudge acm.whu.edu.cn/land/user/detail?user_id=2499 *Rank: 17,* top 0.2%.

GitHub github.com/lulyon *personal projects,* Languages: C/C++, Java, Bash, R.

1) *R-snappy* C&R, R language binding of Snappy, the compressor open sourced from Google.
2) *VegaDB* C++, spatial storage engine of MySQL, supports feature select and trailing insertion.
3) *SpatialClient* C++, spatial data client of in-memory database Redis.
4) *RealTimeIndexer* Java, index and search tool for data scratched from sina weibo based on Lucene.

Skills

Languages **C/C++ > Java > Shell**.

OS **Linux, Windows** *familiar with Linux and Windows environment programming.*

Database **MySQL, PostgreSQL, Redis** *familiar with MySQL, PostgreSQL, Redis.*

Parallel **MPI** *familiar with parallel programming and tuning with MPI.*

English **CET-6: 510** *60-second science translator,* translate up to 100 tech essays.

Activity & Awards

Activity *ACM training team of Wuhan University; Microsoft technology club member.*

Competition *Academician Chen Yonglin Science and Technology Innovation Award; ACM programming contest of Wuhan University and central China region, Third Prize.*

Scholarship *Freshman Scholarship; National motivational scholarship.*

Titles *Outstanding youth league member; Outstanding graduate.*