Mr. Tianrun Li

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Education Background

Department of Computer Science and Technology, Tsinghua University 09/2012-06/2016
GPA: 91/100 Department Ranking: 9/116

Expertise and Research Experiences

Research Intern at Imperial College London (07/2015-08/2015) ***Supervisor: Dr. Thomas Heinis***

- Proposed an approximate optimization of DBSCAN clustering algorithm;
- Realized one order of magnitude faster than state-of-the-art approximate DBSCAN algorithm that was published on SIGMOD15 (Junhao *et al.*) ;
- Highly scalable for large datasets and high dimensional data.

Research Intern at Knowledge Engineering Group (10/2014- 07/2015) ***Supervisor: Dr. Jie Tang***

- Participated in text mining projects using machine learning methods;
- Sentiment analysis for millions of Weibo (Chinese version of Twitter) repost data using emotion icon, which is an unsupervised learning method with no need of manual labeling for training data;
- Similar document search using LDA and q-Gram methods for both semantic and literal similarity.

Group Member in AMiner.org (09/2015-Present) ***Supervisor: Dr. Jie Tang***

- Participated in the developing of a knowledge graph generator for scientific networks, capable of automatically detecting how topics in scientific literature evolve in time;
- Characterized and categorized statistical features of the topics such as their time distribution. Implemented factor graph model to detect evolution relationship;
- Proposed to develop some interactive learning algorithm based on AMiner system.

Professional Projects

OurSQL: Single User Relational Database (11/2014-01/2015)

- Implemented database management system with B+ tree index, aggregate queries, relational integrity constraint and inner join on multiple tables
- Completed over 6000 lines of code in C++, portable among Linux, Mac OS X and Windows
- Same interface as MySQL, regular expression is supported

Cache-CPU: MIPS32 Computer System Design (10/2014-12/2015)

- CPU hardware design written in VHDL, implement MMU and TLB, support 48 instructions
- Implemented interrupts, exception handling and privilege level, able to run a Unix-like OS
- Built a Decaf/Mind cross-compiler that can generate executable code for the system

Publication List

T. Li, T. Heinis, W. Luk, "ADvaNCE: Hashing-based Approximate DBSCAN", **International Conference on Extending Database Technology 2016**, submitted for review.

Extracurriculars & Honors

- Awarded the First Grade National Scholarship of China (1%) in 2014
- Class monitor (09/2013-06/2014); Outstanding Class Award, first place in class 12'

Skills

- **Programming language:** C++(highly proficient), Python, JAVA
- **Skills:** Linux, machine learning, data mining, database, coding history can be found on https://github.com/Terranlee
- **GRE:** V 152 (54%) Q 168 (95%) A/AW 4.0 (56%)
- **TOEFL:** 106 (R:29 L:28 W:27 S:22)