

Lilong Jiang

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Address: 896 Deacon Circle, Columbus, Ohio, 43214

Education

The Ohio State University

08/2012-08/2017

PhD, Computer Science and Engineering

Advisor: Prof. Arnab Nandi | GPA: 3.8/4.0

Northeastern University

09/2008-06/2012

BEng, Software Engineering

Graduated with Distinction | Ranking: 3/316

Research Interests

Databases, Data Mining, Visualization, Data Analytics, Recommendation, Statistics

Awards

- VLDB Travel Fellowship, 2014
- National Scholarship, Chinese Government, 2009 – 2010
- Third Prize, ACM/ICPC within Northeast China, 2010
- Second Prize, ACM/ICPC within Liaoning Province of China, 2010

Publications

- Evaluating Data Interaction: Workloads and Metrics for Different Devices and Interfaces: In Submission
- Graphical Perception in Animated Bar Charts: In Submission
- Effects of Approximation on Graphical Perception of Animated Bar Charts: In Submission
- SnapToQuery: Providing Interactive Feedback during Exploratory Query Specification: VLDB 2015: **Lilong Jiang**, Arnab Nandi
- Designing Interactive Query Interfaces to Teach Database Systems in the Classroom: CHI 2015 (Works-in-Progress): **Lilong Jiang**, Arnab Nandi
- Interactive Tweaking of Text Analytics Dashboards: DNIS 2015: Arnab Nandi, Ziqi Huang, Man Cao, Michael Elsner, **Lilong Jiang**, Srinivasan Parthasarathy, and Ramiya Venkatachalam
- Gestural Query Specification: VLDB 2014: Arnab Nandi, **Lilong Jiang**, Michael Mandel
- GestureQuery: A Multitouch Database Query Interface: VLDB 2013 (demo): **Lilong Jiang**, Michael Mandel, Arnab Nandi

Work Experience

Software Engineer Intern at **Recommendation Team of Twitter**

05/2015-08/2015

Improve current recommendation systems by recommending topic experts' tweets to users who don't follow topic experts. Topic experts are discovered for each topic based on users' tweets and Twitter List. Users' topics are extended by user's recent tweets, where entities are extracted (entity recognition), mapped into Wikipedia categories, and mapped into Twitter's own taxonomy (schema mapping). Then spammer experts (based on tweepcred, verified, etc.) are filtered (outlier detection) and experts are ranked based on his expertise (tweepcred, number of followers, created days, etc.) (ranking). The tweets from topic experts are recommended to users based on the interest matching.

Research Intern at **Integrated System Team of NEC Labs America**

05/2016-08/2016

Participate in the development of intelligent video analytics which is used in practice (http://sg.nec.com/en_SG/press/201604/sg_20160422_01.html). I am responsible for frontend interactive visualizations (profiling, maps, etc.), query by table interface, design and implementation of part of REST APIs, and JUnit testing framework, etc. I also work with another colleague to predict the waiting time of taxis at airport using time-series mining methods (TBATS, correlation-based, etc.).

Projects

Gestural Query (<http://interact.osu.edu/gesturedb/>): Gestural Query Specification

With the rise in popularity of gestural user interfaces and computing devices (e.g. iPad, Leap Motion) that use gestures as their exclusive modes of interaction, database query interfaces require a fundamental rethinking to work without keyboards. We present the first novel query specification system that allows the user to query databases using a series of gestures.

SnapToQuery: Providing Interactive Feedback during Exploratory Query Specification

A critical challenge in the data exploration process is discovering and issuing the "right" query, especially when the space of possible queries is large. We propose SnapToQuery, a novel technique that guides users through the query space by providing interactive feedback during the query specification process by "snapping" to the user's likely intended queries. Data reduction and snapping algorithms are implemented in this project.

PerceptVis (<http://perceptvis.github.io/>): Perceptually Aware Interactive Visualization Systems

The goal of this project is to develop an interactive visual data exploration system designed and optimized to take human perception into account. The aim of this research is to model human perception as perceptual functions. These functions help the system avoid unnecessarily computing visualization results that are more accurate than what can be perceived by the end user. We run a bunch of user studies in Amazon mechanical turk to understand human's perception error of animated bar chart under different parameters (e.g. animation, data, approx. parameters).

Evaluating Data Interaction

There are few public available workloads to evaluate current interactive systems and current systems usually build their own data management system to achieve the low latency. The workloads triggered from interactive systems present different characteristics from traditional workloads. Considering these, we propose the first interactive workloads / benchmarks to evaluate data interaction for difference devices and interfaces.

Text Mining Course Projects

For text documents, I implement knn, naive bayes and rule-based classifiers, and k-means and hierarchical clustering algorithms. I build a visual online tweets sentimental analysis tool, which allows users to do the sentimental analysis for a certain topic. I also implement / use naive bayes and svm to classify tweet sentiment.

Skills

Programming Languages: python, java, C++, javascript, SQL, R, C, scala, scalding, matlab, pig

Systems & Platforms: Linux, Hadoop / MapReduce, Docker, Amazon Mechanical Turk

Libraries: d3, jQuery, node.js, crossfilter, ggplot2, scipy, numpy, beautiful soup, NLTK, Tornado

Statistics: ANOVA, statistical hypothesis test, experimental design, linear mixed model