Lexiang Ye

Objective Full-time position as a software engineer, interested in data mining, machine learning, and database

Contact Information

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Skills Summary

- 5-year development experience with C/C++, 3-year with Matlab, and 2 year with PHP, JSP and PostgreSQL, 1 year with Python
- 3-year development experience on Linux and Windows
- Selected graduate courses: data mining techniques, artificial intelligence, design and analysis of algorithms, database management systems, seminar in machine learning

Education

University of California, Riverside, CA, USA
Ph.D., Computer Science and Engineering — Sep 2006 - Dec 2009 (Expected)

- **Research Interests**: Data Mining, and Machine Learning. Especially on techniques for solving similarity and indexing problems in time-series datasets

Zhejiang University, Zhejiang, China
B.S., Computer Science and Information Engineering — Sep 2002 - Jun 2006

- Thesis topic: Heuristic global partial order mining algorithm (**Excellent Thesis Award**)
- Major GPA: 3.92/4.0, Rank: 20/487

Academic Experience

University of California, Riverside
Research Assistant — Aug 2007 - present

Feature Extraction from Generic Time-series Datasets

- Introduced a method to extract the most distinguishing subsequences from time-series datasets
- Applied the technique to **classification** in various datasets (e.g. shape , multi-dimenstional gait analysis), achieving interpretable, more accurate and significantly faster results than the state-of-the-art classifiers
- An application in C++, wrapped by Matlab interface is publicly available

Anytime Asymmetric Similarity Join

- Cast similarity join algorithm into anytime framework in large-scale high-dimensional datasets
- Indexed the smaller dataset to efficiently accelerate the join process
- This approach has been successfully applied to domains such as anomaly detection and annotation of historical manuscripts

Anyspace Indexing for Low Computational Power Sensors

- Addressed the quadratic space requirement of an efficient indexing using Orchard's algorithm
- Extended the algorithm to maximize performances, by dynamically deallocating indexing space

Nemascope Similarity Search Project

- Setup and maintain the GUI for the website. Implemented several texture matching algorithms
- The website is using PHP, JSP and PostgreSQL. Publicly accessible prototype can be seen here: http://nemascope.cs.ucr.edu/. (username: test; password: test)

Zhejiang University
Research Assistant in Artificial Intelligence Center — Aug 2005 - Jun 2006

Partial Order Modeling on Sequential Data Mining

- Integrated heuristic methods to largely minimize the construction cost for global partial orders
- The algorithm is implemented in C++

Industry Experience

Nokia Research Center, Palo Alto, CA
Summer Intern — Jun 2008 - Sep 2008

Content Based Image Search on Wikipedia

- Provided a pipeline prototype of searching Wikipedia using images. Divided the problem into four modules: image process, image matching, image-word association, word-document mapping.
- Provide a new quantizing method of the image descriptor
- The main languages used is C++ and Python

PUBLICATIONS

Lexiang Ye and Eamonn Keogh. *Time Series Shapelets: A New Primitive for Data Mining.* SIGKDD 2009.

Lexiang Ye, Xiaoyue Wang, and Eamonn Keogh. *Autocannibalistic and Anyspace Indexing Algorithms with Applications to Sensor Data Mining.* In SIAM International Conference on Data Mining 2009.

Taryn Rampley, **Lexiang Ye**, Eamonn Keogh, and Sang-Hee Lee, *Automatic Construction of Typologies for Massive Collections of Projectile Points and other Cultural Artifacts.* In the 37th Annual International Conference on Computer Applications and Quantitative Methods in Archeology (CAA).

Lexiang Ye, Xiaoyue Wang, Dragomir Yankov, and Eamonn Keogh. *The Asymmetric Approximate Anytime Join: A New Primitive with Applications to Data Mining.* In SIAM International Conference on Data Mining 2008.

Xiaoyue Wang, **Lexiang Ye**, Eamonn Keogh and Christian Shelton. *Annotating Historical Archives of Images.* In JCDL 2008. **Runner-Up for Best Student Paper Award**.

REFERENCE

Available Upon Request