Xiaolu Xiong

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Objective

Experienced, results-oriented Data Mining Researcher/Software Developer seeking full-time opportunities.

Education

Worcester Polytechnic Institute	Worcester, MA
Doctor of Philosophy in Computer Science (GPA 3.9/4.0)	Aug, 2011-Dec, 2016
Brandeis University	Waltham, MA
Master of Arts in Computer Science	Aug, 2007-Dec, 2008
Beijing University of Chemical Technology	Beijing, China
Bachelor of Science in Applied Mathematics	Aug, 2003-Jul, 2007

Experience

Data Mining Research Assistant, Worcester Polytechnic Institute   Worcester, MA   Aug, 2011-Present

- Designed A/B tests and applied classification and regression methods on 200GB datasets to help improve student learning and retention performance, impacting over 35,000 students.
- Spearheaded the use of deep learning with Python and TensorFlow in educational data mining and outperformed well-known methods by 10% in AUC.
- Studied various optimization technologies in an extended Hadoop environment and improved performance by 5 to 10 times on join operations by using colocation and caching strategies.

Software Engineering Intern, edX   Cambridge, MA   June, 2015-Aug, 2015

- Studied the design and implementation details of a Massive Open Online Course system and the workflow of open source software development.
- Designed and implemented a shared data access framework prototype with Python and Django to encourage more cooperation and communication on the edX platform.

SDE Intern, Microsoft   Redmond, WA   June, 2014-Aug, 2014

- Designed a classification model with the Random Forest algorithm and C# to identify valid user complaints. This model reduced complaint processing workload by 55% while maintaining extremely high recall on valid complaints.
- Designed a real-time anomaly detection model using C# to detect Xbox Live operation issues from social network streaming data. This model used IQR threshold methods and demonstrated the ability to detect outage events 25 minutes before official notification system acknowledged.

Software Engineer, Edison Mission Marketing & Trading   Boston, MA   Feb, 2009-Jan, 2011

- Built and maintained a web-based analysis platform with Python to support the work of over 50 traders and analysts.
- Optimized computation operations with advance data structures with NumPy and improved time efficiency by 300%.

Quality Assurance, IBM China Software Development Lab   Beijing, China   Jan, 2007-Aug, 2007

- Performed I18N & L10N testing on Lotus Notes and related applications to improve production quality.
- Prompted as Language QA Leader with the responsibilities of coordinating test procedures between testers and developers.

Professional Skills

Big Data Ecosystem: MapReduce, Hadoop, HDFS, Pig.

Programming Languages: Python, Java, Ruby, C#, JavaScript, SQL, R

Statistic Models: Hypothesis Testing, Analysis of Bias and Variance, Design of Experiment, Predictive Modeling, Time Series Analysis.

Machine Learning and Data Mining: Supervised Learning (Regression, Decision Tree, Deep Neural Networks, KNN), Unsupervised Learning (Clustering, Dimension Reduction), etc.

Publications

Going Deeper with Deep Knowledge Tracing EDM 2016

Xiaolu Xiong, Siyuan Zhao, Eric G. Van Inwegen, Joseph E. Beck

Using and Designing Platforms for In Vivo Educational Experiments AIED 2015

Joseph Jay Williams, Korinn Ostrow, Xiaolu Xiong, et al.

Improving Students' Long-Term Retention Performance: A Study on Personalized Retention Schedules LAK 2015

Xiaolu Xiong, Yan Wang, Joseph E. Beck

A Study of Exploring Different Schedules of Spacing and Retrieval Interval on Mathematics Skills in ITS Environment ITS 2014

Xiaolu Xiong, Joseph E. Beck

Improving Retention Performance Prediction with Prerequisite Skill Features EDM 2014

Xiaolu Xiong, Seth A. Adjei, Neil T. Heffernan

Limits to Accuracy: How Well Can We Do at Student Modeling? EDM 2013

Joseph E. Beck, Xiaolu Xiong

Modeling Student Retention in an Environment with Delayed Testing EDM 2013

Shoujing Li, Xiaolu Xiong, Joseph E. Beck

Class Distinctions: Leveraging Class-Level Features to Predict Student Retention Performance AIED 2013

Xiaolu Xiong, Shoujing Li, Joseph E. Beck

Will You Get It Right Next Week: Predict Delayed Performance in Enhanced ITS Mastery Cycle FLAIRS 2013

Xiaolu Xiong, Shoujing Li, Joseph E. Beck

An Analysis of Response Time Data for Improving Student Performance Prediction KDD 2011

Xiaolu Xiong, Zachary A. Pardos, Neil T. Heffernan

Recommendations

Matt Wildon, Senior Software Engineer Microsoft

"Xiaolu was fantastic to work with, he's a very detail orientated, and self-motivated individual. I was continuously impressed with how well he was able to work solo, with very little direction, yet still be able to transition to being a productive part of a larger team. I look forward to getting to work with him again!"

Xingwen Li, Senior Quantitative Risk Analyst Edison Mission Marketing & Trading

"I worked with Xiaolu on various projects when we transfer our risk models, such as asset evaluation model, to analytics group. I am impressed by his solid technique skills, his knowledge of the advanced models and their scripting. He is our reliable source of system management and system inquiries, always ready to help and always be able to solve the problems. He is just such a good guy to work with and he will bring peace of mind to a team."

Mauro Beigante, Senior Energy Analyst Edison Mission Marketing & Trading

"I supervised Xiaolu's work while at Edison Mission Marketing and Trading. Xiaolu is hard-working and dedicated and contributed significantly to various projects at the Quantitative Analysis desk."

Sergey Zhuravlev, Energy Analyst Edison Mission Marketing & Trading

"Xiaolu Xiong is a very effective and diligent employee. I have seen him work well in a team and on his own. He would be a valuable addition to any group."