

Xiangru Huang

2501 Lake Austin Blvd, Apt F101, Austin, TX-78703, USA

Email: xrhuang@cs.utexas.edu • Cell: +1 (512) 960-0087

<http://www.cs.utexas.edu/~xrhuang>

EDUCATION

University of Texas at Austin

- Doctor of Philosophy (Ph.D.) in Computer Science Aug 2014 – Now

Shanghai JiaoTong University

- Bachelor of Science (B.S.) in Computer Science. Sep 2009 – Jul 2013
 - [ACM Honored Class](#)

WORK

EXPERIENCE

Nanyang Technological University

- Research Assistant, Division of Mathematical Sciences Aug 2013 – Jul 2014
 - Project: Trial and Error in Influential Social Networks; game theoretical model of network formation
 - Supervisors: Professor Ning Chen and Xiaohui Bei

eBay

- Research PhD Internship, New Product Development, San Jose. May 2017 – Aug 2017
 - Project: Bilingual Semantic Sequence Embedding Modeling Between Chinese and English.
 - Supervisors: Mingkuan Liu and Alan Lu

PUBLICATIONS

- **Translation Synchronization via Truncated Least Squares**
Xiangru Huang, Zhenxiao Liang, Chandrajit Bajaj and Qixing Huang.
submitted to NIPS 2017
- **PPDSparse: A Parallel Primal and Dual Sparse Method to Extreme Classification**
Ian E.H. Yen, Xiangru Huang, Wei Dai, Pradeep Ravikumar, Inderjit S. Dhillon and Eric P. Xing.
KDD 2017
- **Greedy Direction Method of Multiplier for MAP Inference of Large Output Domain**
Xiangru Huang, Ian En-Hsu Yen, Ruohan Zhang, Qixing Huang, Pradeep Ravikumar and Inderjit Dhillon. *AISTATS 2017*
- **Dual Decomposed Learning with Factorwise Oracle for Structural SVM of Large Output Domain**
Ian En-Hsu Yen, Xiangru Huang, Kai Zhong, Ruohan Zhang, Pradeep Ravikumar and Inderjit Dhillon. *NIPS 2016*
- **PD-Sparse: A Primal and Dual Sparse Approach to Extreme Multiclass and Multilabel Classification** Ian En-Hsu Yen*, Xiangru Huang*, Kai Zhong, Pradeep Ravikumar and Inderjit Dhillon(* equal contribution). *ICML 2016*
- **Trial and Error in Influential Social Networks**
Xiaohui Bei, Ning Chen, Liyu Dou, Xiangru Huang, Ruixin Qiang, (ordered alphabetically by last name). *KDD 2013*

WORKSHOP

TALKS

- **Dual Decomposed Learning with Factorwise Oracle for Structural SVM of Large Output Domain**, Dec/09/2016: [Extreme Classification 2016](#), [NIPS workshop](#).

RESEARCH

PROJECTS

- **Apply Machine Learning techniques on Cache Replacement**

We are interested in applying Machine Learning techniques to improve prediction accuracy for cache replacement. The behaviors of program instructions can be time varying, and the number of possible behaviors of program instructions is extremely huge. Therefore, models from traditional offline learning algorithms (such as SVM) suffer from unacceptable generalization error and/or are impossible to be built on hardware. In order to deal with this, we propose an architecture that combines 1) a small pre-trained context information extractor, 2) LSTMs trained online that captures the time varying behaviors of each instruction. To meet strict hardware time constraints, online LSTMs can be trained in a detached and distributed manner. And by carefully grouping instructions, size of LSTM models can be largely reduced, which results in fast feed forward prediction and small space cost.

AWARDS

- 2nd class award of National Olympiad in Informatics (NOI) in China
- 2nd class Academic Excellence Scholarship in Shanghai JiaoTong University

2007
2012

**PROGRAMMING
SKILLS**

C++, Matlab, Python (include Tensorflow), Java.