

Yao Lu

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I am a researcher in the Data Management, Exploration and Mining (DMX) group, Microsoft Research. Of late, I am working at the intersection of ML and systems towards improved big-data platforms for large-scale machine learning, as well as using machine learning to improve current data platforms. I have broad interests in artificial intelligence, machine learning and computer vision.

Working History

2018.11 – Now **Microsoft Research**, Redmond, WA, USA Senior Researcher
Data Management, Exploration and Mining (DMX) group. Working on problems related with machine learning + big data systems.
Manager: Surajit Chaudhuri, Distinguished Scientist

Educations

2013 – 2018 PhD in CS, **University of Washington**.
Research area: AI + big-data systems. Advised by Prof. Linda Shapiro.
2010 – 2013 MSc in CS, **Fudan University**, Shanghai, China.
Research area: Computer vision and multimedia.
2006 – 2010 BEng in CS, **Tongji University**, Shanghai, China.

Publications

- Y. Lu. Building and Accelerating a Declarative Platform for Machine Learning Model Serving. Doctoral Dissertation. University of Washington. 2018.
- Y. Lu, A. Chowdhery, S. Kandula and S. Chaudhuri. Accelerating Machine Learning Inference with Probabilistic Predicates. ACM International Conference on Management of Data (**SIGMOD**). Houston, TX, USA. 2018.
- Y. Lu, S. Kandula and S. Chaudhuri. Interactive Demonstration of Probabilistic Predicates. ACM International Conference on Management of Data (**SIGMOD**) Demo. Houston, TX, USA. 2018. **Best Demonstration Award**.
- H. Qiu, Y. Zheng, H. Ye, Y. Lu, F. Wang, L. He. Precise Temporal Action Localization by Evolving Temporal Proposals. ACM International Conference on Multimedia Retrieval (**ICMR**). Yokohama, Japan. 2018.
- S. Lyu, M. Chang, D. Du, L. Wen, H. Qi, Y. Li, Y. Wei, L. Ke, T. Hu, M. Del Coco, P. Carcagni, D. Anisimov, E. Bochinski, F. Galasso, F. Bunyak, G. Han, H. Ye, H. Wang, K. Palaniappan, K. Ozcan, L. Wang, L. Wang,

- M. Lauer, N. Watcharapinchai, N. Song, N. Al-Shakarji, S. Wang, S. Amin, S. Rujikietgumjorn, T. Khanova, T. Sikora, T. Kutschbach, V. Eiselein, W. Tian, X. Xue, X. Yu, Y. Lu, Y. Zheng, Y. Huang, Y. Zhang. UA-DETRAC 2017: Report of AVSS2017 & IWT4S Challenge on Advanced Traffic Monitoring. IEEE International Conference on Advanced Video and Signal Based Surveillance (**AVSS**). Lecce, Italy. 2017.
- Y. Peng, H. Ye, Y. Lin, Y. Bao, Z. Zhao, H. Qiu, Y. Lu, L. Wang, Y. Zheng. Large-Scale Video Classification with Elastic Streaming Sequential Data Processing System. ACM Multimedia Workshop on Large-Scale Video Classification Challenge (**LSVC**). Mountain View, USA. 2017.
 - L. Wang, Y. Lu, H. Wang, Y. Zheng, H. Ye and X. Xue. Evolving Boxes for Fast Vehicle Detection. IEEE International Conference on Multimedia and Expo (**ICME**). Hongkong, China. 2017. **Platinum Best Paper Award**.
 - Y. Lu and L. Shapiro. Closing the Loop for Object Proposals and Edge Detection. The Thirty-First AAAI Conference on Artificial Intelligence (**AAAI**). San Francisco, CA, USA. 2017.
 - Y. Lu, X. Bai, L. Shapiro, J. Wang. Coherent Parametric Contours for Interactive Video Object Segmentation. IEEE International Conference on Computer Vision and Pattern Recognition (**CVPR**). Las Vegas, USA. 2016.
 - Y. Lu, A. Chowdhery, S. Kandula. Optasia: A Relational Platform for Efficient Large-Scale Video Analytics. ACM Symposium on Cloud Computing (**SoCC**). Santa Clara, CA, USA. 2016.
 - Y. Lu, W. Zhang, K. Zhang, X. Xue. Semantic Context Learning with Large-Scale Weakly-Labeled Image Set. ACM Conference on Information and Knowledge Management (**CIKM**). Hawaii, HI, USA, 2012.
 - Y. Lu, W. Zhang, C. Jin, X. Xue. Learning Attention Map from Images. IEEE International Conference on Computer Vision and Pattern Recognition (**CVPR**). Providence, RI, USA. 2012.
 - W. Zhang, Y. Lu, X. Xue, J. Fan. Automatic Image Annotation with Weakly Labeled Datasets. **ACM Multimedia**. Scottsdale, AZ, USA. 2011.
 - X. Xue, W. Zhang, J. Zhang, B. Wu, J. Fan, Y. Lu. Correlative Multi-Label Multi-Instance Image Annotation. 13th International Conference on Computer Vision (**ICCV**). Barcelona, Spain. 2011.
 - Y. Lu, W. Zhang, H. Lu, X. Xue. Salient Object Detection using Concavity Context. 13th IEEE International Conference on Computer Vision (**ICCV**). Barcelona, Spain. 2011.
 - Y. Chen, Y. Lu, P. Lu. Fast Computation of Grobner Bases of Ideals of $F[x,y]$. IEEE International Symposium on Information Theory (**ISIT**). Seoul, Korea. 2009.

Selected Awards

- 2018 ACM SIGMOD Best Demonstration Award
- 2017 IEEE ICME Platinum Best Paper Award
- 2014 University of Washington Royalty Research Fund Scholarship
- 2012 Chinese National Graduate Scholarship
- 2012 Google Innovation Scholarship
- 2011 Tencent Scholarship

Previous Internships

2017.6 – 2017.9	Microsoft Research , Redmond, WA, USA	Research Intern
2016.9 – 2016.11	Microsoft Research Asia , Beijing, China	Research Intern
2016.6 – 2016.9	Microsoft Research , Redmond, WA, USA	Research Intern
2015.4 – 2016.6	Microsoft Research , Redmond, WA, USA	Research Intern
2014.6 – 2014.9	Adobe Research , Seattle WA, USA	Research Intern
2009.9 – 2010.3	Microsoft MSN China , Shanghai, China.	SDE Intern

Teaching

- Teaching assistant @ Fudan COMP120004 Linear Algebra, 2011 Spring.
- Teaching assistant @ UW CSE415 Introduction to AI, 2014 Spring.
- Teaching assistant @ UW CSE455 Computer Vision, 2016 Winter, 2017 Winter, 2018 Spring.
- Teaching assistant @ UW CSE547 Machine Learning and Big Data, 2016 Spring.
- Teaching assistant @ UW CSE576 Computer Vision, 2017 Spring.
- Teaching assistant @ UW CSE546 Machine Learning, 2018 Autumn.
- Teaching assistant @ UW CSE515 Statistical Methods in Computer Science, 2018 Winter.
- Teaching assistant @ UW CSE344 Introduction to Data Management, 2018 Summer.

Students Mentored

Xiao Huang (Texas A&M University) on ML for CE, 2019

Kexin Rong (Stanford University) on ML for AQP (with Srikanth Kandula), 2019

Professional Services

Program Committee Member for the following conferences:

AAAI 2019, AAAI 2020, CVPR 2019, CVPR 2020, ICCV 2019, ACM Multimedia Asia 2019, MIPR 2018, MIPR 2019, MIPR 2020, SMDB 2020, ECCV 2020

Reviewer for the following journals:

Neurocomputing, The Visual Computer, IEEE Security & Privacy