LIANGJIE HONG, Ph.D.

Senior Research Scientist and Tech Lead

Personalization and Search Sciences, Yahoo Research
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SUMMARY

- Leader who bridges product visions and engineering challenges with scientific solutions
- Experienced expert in designing and building large-scale machine learning systems and models
- Renowned researcher in personalization, recommender systems and search

RECENT EMPLOYMENTS

Senior Research Scientist and Tech Lead, *Yahoo Research* 2016 - Present

- Lead a group of 3 scientists and 10 engineers, closely work with product managers and engineering partners to provide science guidance and solutions for mobile search innovations.
  Design and build a large-scale machine learning system to power the next generation card-driven mobile search experiences for millions of users, utilizing *learning-to-rank*, *deep learning* and *causal inference* techniques.
  2 patents pending and a major publication is under review.

Research Scientist and Tech Lead, *Yahoo Labs* 2013 - 2016

- Lead 2 scientists, work with multiple engineering teams to provide science guidance and solutions for Yahoo homepage content recommendation systems.
  Build large-scale ranking models to personalize Yahoo homepage content items for billions of U.S. users and improve 10% over a major user engagement metric (usually 1% considered as significant), utilizing *ensemble methods*, *tree-based models* and *online learning*.
  2 publications with 1 Best Paper Award in prestige conferences and 4 internal publications.
- Build large-scale ranking models to personalize Yahoo homepage content items for millions of users in 20+ international markets with 20% improvements over a major user engagement metric (usually 2% considered as significant), utilizing *ensemble methods*, *tree-based models* and *multi-armed bandit algorithms*.
- Build large-scale statistical models to track and predict click-through-rate (CTR) of native streaming ads with 2% improvements over a multi-year production system, utilizing *generalized linear models* and *online learning*.
- Build large-scale content understanding tool to model user's interests and the evolution of topics and demonstrated significant improvements over conventional user profiling methods, utilizing *topic models* and *Bayesian inferences*.

EDUCATION

Lehigh University – Ph.D., Computer Science 2013

Lehigh University – Master, Computer Science 2010

Beijing University of Chemical Technology – Bachelor, Computer Science 2007

SELECTED PUBLICATIONS (H-index: 17, Citations: 1,300+)

1. X. Yi, **L. Hong**, E. Zhong, NN. Liu and S. Rajan. Beyond Clicks: Dwell Time in Personalization. In the proceedings of **ACM RecSys 2014**. [*Best Paper Award*]
2. A. Ahmed, **L. Hong** and A. Smola. Nested Chinese Restaurant Franchise Process: Applications to User Tracking and Document Modeling. In the proceedings of **ICML 2013**.
3. A. Ahmed, **L. Hong** and A. Smola. Hierarchical Geographical Modeling of User locations from Social Media Posts. In the proceedings of **WWW 2013**.

4. **L. Hong**, A. Doumith and B. D. Davison. Co-Factorization Machines: Modeling User Interests and Predicting Individual Decisions in Twitter. In the proceedings of **WSDM 2013**. [*Best Paper Nominated*]
5. **L. Hong**, A. Ahmed, S. Gurumurthy, A. Smola and K. Tsioutsiouliklis. Discovering Geographical Topics in the Twitter Stream. In the proceedings of **WWW 2012**.
6. **L. Hong**, O. Dan and B. D. Davison. Predicting Popular Messages in Twitter. In the proceedings of **WWW 2011**. [*Best Poster Award*]

SELECTED PATENTS

1. S. Rajan, **L. Hong**, NN. Liu and S. Gaffney. *Universal Blending Of Disparate Sources*. [Filed]
2. N. Golbandi, X. Yi and **L. Hong**. *Incorporating Screen Size of Info Cards for Optimizing Card Rankings for Mobile Products*. [Pending]
3. X. Yi, **L. Hong**, Y. Shi, S. Rajan, A. Glass, Z. Yue. *Using User Engagements for Optimizing Card Ranking for Mobile Information Guide Products*. [Pending]

SELECTED AWARDS

- **ACM RecSys Best Paper Award** 2014
- **ACM WSDM Best Paper Nominated** 2013
- **ACM WWW Best Poster Paper Award** 2011

SELECTED PROFESSIONAL SERVICES

- **Organizers and Chairs:**
  The Second Workshop on User Engagement Optimization at KDD 2014
  The First Workshop on User Engagement Optimization at CIKM 2013
- **Session Chair:**
  WSDM 2014
- **Program Committee Member:**
  EMNLP 2016, IJCAI 2016, ACL 2016, KDD 2016, SIGIR 2016, WWW 2016, WSDM 2016, CIKM 2015, SIGIR 2015, KDD 2015, IUI 2015, WWW 2015, CIKM 2014, SIGIR 2014, AAAI 2014, WSDM 2014, ICWSM 2013, EMNLP-CoNLL 2012
- **Journals Reviewer:**
  Data Mining and Knowledge Discovery
  ACM Transactions on Knowledge Discovery from Data
  ACM Transactions on Information Systems
  ACM Transactions on Intelligent Systems and Technology
  Neurocomputing
  IEEE Transactions on Neural Networks and Learning Systems
  IEEE Intelligent Systems
  IEEE Transactions on Knowledge and Data Engineering
  Information Processing and Management
  Information Systems
  Journal of the Association for Information Science and Technology

SKILLS

- **Languages**: Java, Scala, Python and C++
- **Platforms**: Hadoop, Spark, Pig and Hive