

FENGJIAO WANG

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OBJECTIVE

Data Scientist, Full-time Fall 2017

EDUCATION

University of Illinois at Chicago, Chicago, IL, USA

Aug 2010 - Dec 2017 (expected)

Ph.D. Candidate, Computer Science, Adviser: Professor Philip S. Yu

Beihang University, Beijing, China

Aug 2006 - July 2010

Bachelor of Science, Information & Computational Science

SUMMARY

Research interest: Data Mining, Machine Learning, Information Retrieval, featuring Deep Modeling, Network Embedding, Multi-view Learning, etc.

Rich hands-on project experiences on real world problems: Proficient in mathematical problem formulation and programming with Python, Java, Matlab, etc., investigated multiple research topics including POI recommendation, location-based social network embedding, social influence modeling, social profiling, etc.

PROFESSIONAL EXPERIENCE

Samsung Research America, San Jose, CA

Summer 2013

Data Science Research Intern, Mentor: Hongxia Jin

- *Defending against user identity linkage:* Build an effective User Accounts Linkage Inference (UALI) model to link accounts in multiple online social networks (OSNs) to exemplify potential risks of account linkage. Develop Resist User Linkage (RULE) algorithm to study the countermeasure against user identity linkage attack across multiple OSNs. (Patent Submitted)

RESEARCH EXPERIENCE

University of Illinois at Chicago, Chicago, IL

Fall 2010 - Present

Research Assistant, Big Data and Social Computing (BDSC) Lab, Advisor: Prof. Philip S. Yu

- *Deep POI Recommendation:* Build a deep content-aware POI recommendation model to structurally learn POI and user characteristics. The proposed DCPR model includes three collaborative layers, a CNN layer for POI feature mining, a RNN layer for sequential dependency and user preference modeling and an interactive layer based on matrix factorization to jointly optimize the overall model.
- *Predicting User Home Location:* Build a collective geographical embedding model to learn the representation of objects in heterogeneous networks of multiple LBSNs. In this method, we incorporate a real-world location affinity matrix for heterogeneous network embedding. The proposed model greatly improves visualization of user-POI network embedding and achieve much better results over existing location prediction models.
- *Venue Recommendation:* Integrate subspace learning technique into spectral co-clustering to incorporate personalized information. Co-cluster users and venues in LBSNs to detect personalized user groups and venue clusters to facilitate social recommendation and personalized venue recommendation.
- *Modeling check-in motivations:* Construct user check in motivation prediction model (UCMP) based on goal-directed behavior (MGB) to predict check-in motivation. The prediction results can facilitate real-world applications such as local advertising and social recommendation.
- *Name disambiguation:* Propose a constrained affinity propagation model (CAP) to integrate multiple types of information (user information, text information, connection information) to distinguish entities in bibliography systems. The accuracy and recall are higher than 90%.

Research Assistant, Advisor: Prof. Jie Tang

- *User action prediction*: Build a Noise Tolerant Time-varying Factor Graph Model (NTT-FGM) for modeling and predicting social actions. Implement distributed learning algorithm under the message-passing parallel programming model. The NTT-FGM model achieves high precision and recall in prediction tasks on three different networks.
- *Energy-related patent analysis*: Model heterogeneous patent networks (patents, companies, and inventors) to facilitate patent summarization, competitive analysis.

SELECTED PUBLICATIONS

1. **Fengjiao Wang**, Chun-Ta Lu, Yongzhi Qu, Philip S. Yu. “**Collective Geographical Embedding for Geolocating Social Network Users**,” in *The Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD '17)*, 2017.
2. Xiao Pan, Jiawei Zhang, **Fengjiao Wang**, Philip S. Yu. “**DistSD: Distance-based Social Discovery with Personalized Posterior Screening**,” in *IEEE International Conference on Big Data (BigData '16)*, 2016.
3. **Fengjiao Wang**, Shuyang Lin, Philip S. Yu. “**Collaborative Co-clustering across Multiple Social Media**,” in *IEEE International Conference on Mobile Data Management (MDM '16)*, 2016.
4. **Fengjiao Wang**, Guan Wang, Shuyang Lin, Philip S. Yu. “**Concurrent Goal-oriented Co-clustering Generation in Social Networks**,” in *IEEE International Conference on Semantic Computing (ICSC '15)*, 2015.
5. **Fengjiao Wang**, Guan Wang, Shuyang Lin, Philip S. Yu. “**Why Checkins: Exploring User Motivation on Location Based Social Networks**,” in *IEEE International Conference on Data Mining (ICDM '14)*, 2014 (**Workshop**).
6. Shuyang Lin, Qingbo Hu, **Fengjiao Wang**, Philip S. Yu. “**Steering Information Diffusion Dynamically against User Attention Limitation**,” in *IEEE International Conference on Data Mining (ICDM '14)*, 2014.
7. Yilin Shen, **Fengjiao Wang**, Hongxia Jin. “**Defending against User Identity Linkage Attack across Multiple Online Social Networks**,” in *Proceedings of the companion publication of the 23rd international conference on World wide web companion (WWW Companion '14)*, 2014.
8. Ning Yang, Xiangnan Kong, **Fengjiao Wang**, Philip S. Yu. “**When and Where: Predicting Human Movements Based on Social Spatial-Temporal Events**,” in *Proceedings of 2014 SIAM International Conference on Data Mining (SDM '14)*, 2014.
9. Shuyang Lin, **Fengjiao Wang**, Qingbo Hu, Philip S. Yu. “**Extracting social events for learning better information diffusion models**,” in *Proceedings of the Nineteenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (SIGKDD '13)*, 2013.
10. Chenhao Tan, Jie Tang, Jimeng Sun, Quan Lin, **Fengjiao Wang**. “**Social Action Tracking via Noise Tolerant Time-varying Factor Graphs**,” in *Proceedings of the Sixteenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (SIGKDD '10)*, 2010.

SKILLS

Programming: Python, Java, Matlab, C/C++

Database Systems: MySQL, SQL Server

AWARDS AND HONORS

College Scholar, The Beihang University

2007, 2008, 2009