Ji Yang (Carl)

(+1) (217) 417-5987
jiyang3 AT illinois.edu
Data Mining Group, Computer Science Department, UIUC
2119B Siebel Center, 201 N Goodwin Avenue, Urbana, IL 61801

EDUCATION BACKGROUNDS

University of Illinois, Urbana Champaign *Aug. 2014-present*
Research Assistant, Ph.D. Candidate in Computer Science
GPA: 3.94/4.0, Research interests: data mining, network embedding, neural networks

Chu Kochen Honors College, Zhejiang University *Sep. 2010-Jun. 2014*
B.Eng. in Computer Science & Technology
GPA: Major: 3.97/4.0, Overall: 3.86/4.0; Ranking: Top 2% of 201 students

RESEARCH EXPERIENCES

Data and Information System Research Lab, UIUC *Aug. 2014 - present*
Research Assistant, Advisor: Prof. Jiawei Han *Urbana, Illinois, US*

- Developed a deep learning architecture to bridge collaborative filtering and semi-supervised learning for POI recommendation. The work was published in **KDD** 2017.
- Developed a deep learning architecture based on RNN and random-walks to leverage user attributes, link structure and community labels for learning social pattern oriented network embeddings. The work was submitted to **ICDM** 2017.
- Designed a cross-media sentiment analysis method for summarizing social opinions towards news events.
- Won course project champion (CS412 Data Mining 2015 Fall UIUC) for fraud detection on car purchases; led course projects for spam detection and targeted promotion.

State Key Lab of CAD&CG, Zhejiang University *Feb. 2012 - Jun. 2014*
Research Assistant, Advisor: Prof. Xiaofei He *Hangzhou, Zhejiang, China*

- Developed a novel manifold learning algorithm which learns the distance metric via heat flows on vector fields; implemented it for image retrieval. The work was published in **ICML** 2014.
- Developed a matrix factorization algorithm which imposes a locality constraint into the original concept factorization method. The work was published in **TNNLS** 2014.
- Extended a state-of-the-art ranking algorithm from single query retrieval to multi-query scenario and reduced the complexity through sampling. The work was published in **Neurocomputing** 2014.

Student Research Training Program, Zhejiang University *Apr. 2012 - May. 2013*
Group Lead, Supervisor: Prof. Xiaohu Yang *Hangzhou, Zhejiang, China*

- Studied concepts and strategies of future trading; designed models and algorithms based on finite-state automaton for automated trading; produced a trading simulator with ASP .NET (C#) framework.

PUBLICATIONS

- **Carl Yang**, Kevin C. Chang: *Relationship Profiling over Social Networks: Reverse Smoothness from Similarity to Closeness.* **SDM**, 2018, submitted.
- **Carl Yang**, Hanqing Lu, Kevin C. Chang: *CONE: Community Oriented Network Embedding.* **ICDM**, 2017, submitted.
- **Carl Yang**, Lanxiao Bai, Chao Zhang, Quan Yuan, Jiawei Han: *Bridging Collaborative Filtering and Semi-Supervised Learning: A Neural Approach for POI recommendation.* **KDD**, 2017.
- **Carl Yang**, Zhong Lin, Li-Jia Li, Jie Luo: *Bi-directional Joint Inference for User Links and Attributes on Large Social Graphs.* **WWW**, 2017.

- Binbin Lin, **Ji Yang**, Xiaofei He, Jieping Ye: *Geodesic Distance Function Learning via Heat Flows on Vector Fields.* **ICML**, 2014.
- **Ji Yang**, Bin Xu, Binbin Lin, Xiaofei He: *Multi-Query Parallel Field Ranking for Image Retrieval.* Neurocomputing, 2014.
- Haifeng Liu, Zheng Yang, **Ji Yang**, Zhaohui Wu, Xuelong Li: *Local Coordinate Concept Factorization for Image Representation.* **TNNLS**, 2014.

WORKING EXPERIENCES

Big Data, Didichuxing Inc. *Jun. 2017 - Aug. 2017*
Research Intern, Supervisor: Prof. Jieping Ye *Beijing, China*

- Constructed the travel HIN (heterogeneous information network) based on DiDi's unique transportation data and developed a pattern-aware HIN embedding algorithm for passenger experience prediction and understanding. The work is under preparation for **ICDE** 2018.

Research, Snapchat Inc. (Continued as part-time research scientist) *May. 2016 - Aug. 2016*
Research Intern, Supervisor: Dr. Roger Luo *Los Angeles, CA, US*

- Developed a principled probabilistic joint learning framework of user links and attributes for friend recommendation and interest targeting. Implemented an efficient map-reduce pipeline with Spark and scaled up to millions of nodes and billions of edges. The work was published in **WWW** 2017.

Demographics ads serving, Google Inc. (Got Return intern offer) *May. 2015 - Aug. 2015*
Software Engineer Intern, Supervisor: Dr. Tianyi Wu *Kirkland, WA, US*

- Developed a new ads inventory metric. Implemented data extraction and inventory analysis pipeline using flume C++. Implemented an online simulation of ads serving and an offline optimal algorithm based on max flow to analyze the true ads inventory. Demonstrated the possibility to significantly increase demographics label precision without harming inventory at all under the new metric.

Department of Algorithms, Alibaba Corporation *Sep. 2013 - Feb. 2014*
Part-Time Data Analyst, Supervisor: Dr. Yong He *Hangzhou, Zhejiang, China*

- Applied machine learning algorithms and statistical methods to analyze customer preferences and shopping patterns in Taobao.com's large real world transaction data.

QA team in the College of Computer Science, Zhejiang University *Oct. 2012 - Jun. 2013*
Core Member, Supervisor: Prof. Shanping Li *Hangzhou, Zhejiang, China*

- Designed comprehensive user requirements and test cases to evaluate students' self-made computers.

IMPORTANT SKILLS

Language	Native Chinese, Fluent English (GRE 327+4, TOEFL 105 (S24))
Computer Programming	C/C++, Java, Python, Scala, C#, Pascal, PHP
Data Mining	MongoDB, Spark, Kafka, Matlab, R
Neural Networks	TensorFlow, PyTorch, Keras
Versatility	Badminton, Skating, Climbing, Diving, Photography and A-LOT