

# Jie Yang

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## Profile

Jie Yang is a final-year PhD candidate in Delft University of Technology, with the Web Information Systems group. His PhD work focuses on data-driven approaches for better understanding and accelerating the crowd knowledge creation process, by creating novel methods and tools for user modeling, recommendation, and crowdsourcing and human computation. His research has been published in leading conferences and journals on related domains (e.g., ACM UMAP, ACM RecSys, AAAI HCOMP, IJCAI, AAAI, ACM HyperText, ACM WebSci, ICWE). He has been actively participating in academic and industrial projects related to the research and applications of recommendation and crowdsourcing techniques, including knowledge creation project with Dutch COMMIT Program, and the smart city project with AMS Amsterdam Institute for Advanced Metropolitan Solutions. Jie Yang's research has been applied to multiple city-scale events, including Amsterdam Light Festival (<https://amsterdamlightfestival.com>), SAIL Amsterdam 2015 (<https://www.sail.nl/2015>), and Pride Amsterdam 2017 (<http://pride.amsterdam>). Jie Yang co-organizes the international workshop on Recommender Systems for Citizens (CitRec) at ACM RecSys 2017. He is also active in serving research communities.

## Education

- **Ph.D. Delft University of Technology, 10/2017 (expected).**  
*Web Information Systems group*  
*Adviser: Geert-Jan Houben, Alessandro Bozzon.*
- **M.Sc. Eindhoven University of Technology, 08/2013.**  
*Cum Laude (highest honor) in Computer Science*  
*Adviser: Toon Calders (TU/e), Reinder Haakma (Philips Research).*
- **B.Eng. Zhejiang University, 07/2011.**  
*Computer Science; GPA: 3.86/4.*

## Research Interests

- User Modeling & Recommender Systems:  
[\[IJCAI 2017\]](#) [\[AAAI 2017\]](#) [\[ACM RecSys 2016\]](#) [\[ACM UMAP 2015\]](#) [\[ICWE 2015\]](#) [\[ACM UMAP 2014\]](#)
- Human Computation & Crowdsourcing:  
[\[ACM HyperText 2017\]](#) [\[AAAI HCOMP 2016\]](#) [\[TURSTINCW@ACM WebSci 2016\]](#) [\[Computer Networks\]](#) [\[ACM UMAP 2015\]](#) [\[ICWE 2015\]](#) [\[ACM HyperText 2014\]](#)
- Social Data & Urban Analytics:  
[\[ACM WebSci 2016\]](#) [\[ICWE 2016\]](#) [\[KDWeb 2016\]](#) [\[KDWeb 2015\]](#) [\[IDEA@ACM KDD 2013\]](#)

## Industrial Experience

- Machine Learning Scientist Intern, *Amazon*, Seattle, United States, 2017
  - Will join Amazon for summer intern.
  - Stay tuned...
- Research Intern, *Philips Research*, Eindhoven, The Netherlands, 2013
  - Discriminative feature extraction from cardio-respiratory time series data for deep/non-deep sleep classification
  - Rank  $\sim$ 1st among all  $\sim$ 200 features, w.r.t. discriminative power
  - Results published in [\[Physiological Measurement 2014\]](#). Feature used in the new Health Watch product of Philips, **the only** health watch product on market (since 2016) registered with FDA.

## Professional Activities

- Member of ACM **SIGWEB**
- Co-Chair for International Workshop on **Recommender Systems for Citizens (CitRec)** at ACM Conference on Recommender Systems (**RecSys**), 2017.
- Reviewer for the following conferences:
  - ACM International Conference on Intelligent User Interfaces (**IUI**), 2018
  - ACM Conference on User Modelling, Adaptation, and Personalization (**UMAP**), 2017
  - International World Wide Web Conference (**WWW**), 2017
  - European Conference on Information Retrieval (**ECIR**), 2017
  - AAAI Conference on Human Computation and Crowdsourcing (**HCOMP**), 2016
  - International Joint Conferences on Artificial Intelligence (**IJCAI**), 2016
  - International Conferences on Web Engineering (**ICWE**), 2015
- And the following journals:
  - Computing and Informatics (**CAI**)
  - Electronic Commerce Research and Applications (**ECRA**)
  - Journal of Web Engineering (**JWE**)

## Publications

1. Zhu Sun\*, **Jie Yang\***, Jie Zhang, Alessandro Bozzon, Yu Chen, Chi Xu. MRLR: Multi-level Representation Learning for Personalized Ranking in Recommendation. In Proceedings of the 26th International Joint Conference on Artificial Intelligence (**IJCAI 2017**), full paper, Melbourne, Australia, August 19 - 25, 2017. (\*Joint first authors)
2. Ujwal Gadiraju, **Jie Yang**, Alessandro Bozzon. Clarity is a Worthwhile Quality - On the Role of Task Clarity in Microtask Crowdsourcing. In Proceedings of the 28th ACM Conference on Hypertext and Social Media (**HyperText 2017**), full paper, Prague, Czech Republic, July 4 - 7, 2017, ACM.
3. Zhu Sun, **Jie Yang**, Jie Zhang, Alessandro Bozzon. Exploiting both Vertical and Horizontal Dimensions of Feature Hierarchy for Effective Recommendation. In Proceedings of the 31st AAAI Conference on Artificial Intelligence (**AAAI 2017**), full paper, San Francisco, California, US, February 4 - 9, p. 189-195, 2017, AAAI.

4. **Jie Yang**, Judith Redi, Alessandro Bozzon, Gianluca Demartini. Modeling Crowdsourcing Task Complexity. In Proceedings of the 4th AAAI Conference on Human Computation and Crowdsourcing (**HCOMP 2016**), full paper, Austin, TX, US, October 30 - November 3, p. 249-258, 2016, AAAI.
5. Arkka Dhiratara, **Jie Yang**, Alessandro Bozzon, Geert-Jan Houben. Social Media Data Analytics for Tourism – A Preliminary Study. In Proceedings of the 2nd Knowledge Discovery on the Web (**KDWeb 2016**), full paper, Cagliari, Italy, September 08 - 10, 2016.
6. **Jie Yang**, Zhu Sun, Alessandro Bozzon, Jie Zhang. Learning Hierarchical Feature Influence for Recommendation by Recursive Regularization. In Proceedings of the 10th ACM Conference on Recommender Systems (**RecSys 2016**), full paper, Boston, MA, US, September 15 - 19, p. 51-58, 2016, ACM.
7. **Jie Yang**, Alessandro Bozzon. On the Improvement of Quality and Reliability of Trust Cues in Micro-task Crowdsourcing. In the 1st ACM Web Science Workshop on Weaving Relations of Trust in Crowd Work: Transparency and Reputation across Platforms. (**TURSTINCW@WebSci 2016**), [position paper](#), Hannover, Germany, May 22 - 25, 2016, ACM. [Best Paper Award](#)
8. Deniz Iren, Cynthia Liem, **Jie Yang**, Alessandro Bozzon. Using Social Media to Reveal Social and Collective Perspectives on Music. In Proceedings of the 8th ACM Conference on Web Science (**Web-Sci 2016**), short paper, Hannover, Germany, May 22 - 25, p. 296-300, 2016, ACM.
9. **Jie Yang**, Claudia Hauff, Geert-Jan Houben, Christiaan Titos Bolivar. Diversity in Social Media Urban Analytics. In Proceedings of the 16th International Conference on Web Engineering (**ICWE 2016**), full paper, Lugano, Switzerland, June 6 - 9, p. 335-353, 2016, Springer LNCS.
10. Yuan, Lu, **Jie Yang**. Notes on Low-rank Matrix Factorization. In [arxiv:1507.00333](#), 2015.
11. Giuseppe Silvestri, **Jie Yang**, Alessandro Bozzon, Andrea Tagarelli. Linking Accounts across Social Networks: the Case of StackOverflow, Github and Twitter. In Proceedings of the 1st Knowledge Discovery on the Web (**KDWeb 2015**), full paper, Cagliari, Italy, September 03 - 05, 2015, p. 41-52, CEUR Vol-1489.
12. Jasper Oosterman, **Jie Yang**, Alessandro Bozzon, Lora Aroyo, Geert-Jan Houben. Crowdsourcing Visual Artwork Annotations in Cultural Heritage. In **Computer Networks 2015**, 90 133-149, Elsevier, 2015.
13. **Jie Yang**, Alessandro Bozzon, Geert-Jan Houben. Harnessing Engagement for Knowledge Creation Acceleration in Collaborative Q&A Systems. In Proceedings of the 23rd Conference on User Modeling, Adaption and Personalization (**UMAP 2015**), full paper, Dublin, Ireland, June 29 - July 03, p. 315-327, 2015, Springer LNC 9146.
14. **Jie Yang**, Alessandro Bozzon, Geert-Jan Houben. E-Wise: an Expertise-Driven Recommendation Platform for Web Question Answering Systems. In Proceedings of the 15th International Conference on Web Engineering (**ICWE 2015**), [demonstration paper](#), Rotterdam, the Netherlands, June 23 - 26, 2015, p. 691-694, 2015, Springer LNCS 9114.
15. **Jie Yang**, Alessandro Bozzon, Geert-Jan Houben. Knowledge Crowdsourcing Acceleration. In Proceedings of the 15th International Conference on Web Engineering (**ICWE 2015**), doctoral symposium paper, Rotterdam, the Netherlands, June 23 - 26, 2015, p. 691-694, 2015, Springer LNCS 9114.
16. **Jie Yang**, Claudia Hauff, Alessandro Bozzon, Geert-Jan Houben. Asking the Right Question in Collaborative Q&A Systems. In Proceedings of the 25st ACM Conference on Hypertext and Social Media (**HyperText 2014**), full paper, Santiago Downtown, Chile, September 1 - 4, p. 179-189, 2014, ACM.

17. **Jie Yang**, Ke Tao, Alessandro Bozzon, Geert-Jan Houben. Sparrows and Owls: Characterisation of Expert Behaviour in StackOverflow. In Proceedings of the 22nd Conference on User Modeling, Adaption and Personalization (**UMAP 2014**), full paper, Aalborg, Denmark, July 7 - 11, 2014, p. 266-277, 2014, Springer LNCS.
18. Xi Long, **Jie Yang**, Tim Weysen, Reinder Haakma, Jerome Foussier, Pedro Fonseca, Ronald M. Aarts. Measuring Dissimilarity Between Respiratory Effort Signals based on Uniform Scaling for Sleep Staging. In **Physiological Measurement 2014**, 35 (12) 2529-2542, 2014, Institute of Physics and Engineering in Medicine.
19. Hoang Thanh Lam, Toon Calders, **Jie Yang**, Fabian Moerchen, Dmitriy Fradkin. Zips: Mining Compressing Sequential Patterns in Streams. In Proceedings of the ACM SIGKDD Workshop on Interactive Data Exploration and Analytics (**IDEA@KDD 2013**), full paper, Chicago, Illinois, USA, August 11 - 14, 2013, p. 54-62, 2013, ACM.

## Recent Presentations & Invited Talks

- “Exploiting both Vertical and Horizontal Dimensions of Feature Hierarchy for Effective Recommendation”, **Delft RecSys Working Group Meeting**, Delft, The Netherlands, March, 2017.
- “Modeling Task Complexity in Crowdsourcing”, **AAAI HCOMP 2016**, Austin, TX, USA, October, 2016.
- “Mining Social Data for Knowledge Creation Acceleration”, **TU/e Data Mining Seminar**, Eindhoven, The Netherlands, October, 2016.
- “Learning Hierarchical Feature Influence for Recommendation by Recursive Regularization”, **ACM RecSys 2016**, Boston, MA, USA, September, 2016.
- “Recommender Systems and Beyond in Web Information Systems”, **Delft RecSys Working Group Meeting**, Delft, The Netherlands, January, 2016.

## Teaching Experience

- Information Retrieval  
Instructor & Course Manager, MS.c. Course in TU Delft, **Information Retrieval**, 2017.  
Duties:
  - Delivered 3 lectures respectively on Social Network Analysis for Information Retrieval, Link Analysis and PageRank, and Online Knowledge Crowdsourcing;
  - Guided and supervised students’ projects in 4 groups throughout the course;
  - Delivered hands-on demonstrations on Text Processing Pipeline and Retrieval Models (vector space models & probabilistic models).
- Social Web Data Analytics  
Invited Lecturer, MS.c. Course in TU Delft, **Web Science and Engineering**, 2016.  
Duties:
  - Delivered a lecture on social web data retrieval, exploratory analysis, and predictive analysis;
  - Designed a hands-on assignment for individual students;
  - Marked students’ assignments.

- Social Network Analysis – from the perspective of social data science  
Guest Lecturer, MS.c. Course in TU Delft, **Information Retrieval**, 2016.
- Online Knowledge Crowdsourcing  
Guest Lecturer, MS.c. Course in TU Delft, **Information Retrieval**, 2016.
- Methods in Collaborative Knowledge Creation on the Web  
Guest Lecturer, MS.c. Course in TU Delft, **Mining Software Repositories**, 2015.
- Methods in Social Web Data Analytics & Web Science  
Guest Lecturer, MS.c. Course in TU Delft, **Web Science and Engineering**, 2015.
- Accelerating Knowledge Creation in Collaborative Q&A Systems  
Guest Lecturer, MS.c. Course in TU Delft, **Mining Software Repositories**, 2014.
- Social Web Data Analytics  
Guest Lecturer, MS.c. Course in TU Delft, **Web Science and Engineering**, 2014.

## Student Mentoring

- Rucha Bapat. Ms.c. Thesis: Crowd-enhanced Conversational Agents. TU Delft, 2017.
- Aditi Rawat. Ms.c. Thesis: Cross-platform Expertise Characterisation in Online Software Development Communities. TU Delft, 2017.
- Carlo van der Valk. Ms.c. Thesis: Perception of Task Complexity in Crowdsourcing Communities. TU Delft, 2017.
- Vincent Gong. Ms.c. Thesis: Urban Analytics with Multi-Cultural Social Media Sources. TU Delft, 2016.
- Giuseppe Silvestri. Visiting Project: Cross-Platform Expertise Characterisation. TU Delft, 2015.
- Friso Abcouwer. Msc. Thesis: Complexity of Human Computation Tasks. TU Delft, 2015.
- Sijmen Hoogendijk. Msc. Thesis: Ask the Right Expert – Question Routing Based On User Expertise in Web Questions Answering Systems. TU Delft, 2014.

## Honors

- ACM HyperText Douglas Engelbart Best Paper Award Nomination, 2017.
- Best Paper Award, TRUSTINCW @ACM WebSci, 2016.  
Awarded by both the program committee members and the crowd.
- UMAP Student Travel Award, 2014 & 2015.
- ACM SIGWEB Student Travel Award, 2014.
- Philips Amandus H. Lundqvist Scholarship, 2011 - 2013.  
Granted to fully support the study and life expense for the 2-year master program.
- Zhejiang University Research and Innovation Award, 2010.

## Programming Languages and Tools

- Languages: Python, Matlab, Java, Shell, C, C++, JavaScript, PHP
- Tools: scikit-learn, Jupyter notebook, Keras, PyTorch, MXNet, Pandas, NLTK, Graphlab-create, PostgreSQL, and many machine learning & optimization tools

## Natural Languages

- Mandarin Chinese (Native), English (Fluent)

## References

- **Geert-Jan Houben**, Delft University of Technology  
Professor of Web Information Systems, working on Data Science, User Modeling, and Web Engineering. He is the Scientific Director of Delft Data Science (DDS), KIVI-chair Big Data Science, Principal Investigator in AMS, Amsterdam Institute for Advanced Metropolitan Solutions.  
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- **Alessandro Bozzon**, Delft University of Technology  
Assistant Professor in Web Information Systems, working on Crowd Computing, Information Retrieval, and Web Engineering. He is a Faculty Fellow with the IBM Benelux Center of Advanced Studies, Principal Investigator, Data Science Enabling Technologies in AMS.  
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Homepage: <http://www.alessandrobozzon.com>
- **Claudia Hauff**, Delft University of Technology  
Assistant Professor in Web Information Systems, working on Data Science, Information Retrieval, Social Media Data Analytics, and MOOCs.  
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