

Juhua Hu

Curriculum Vitae

School of Engineering and Technology
University of Washington | Tacoma
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Education

- 2012.09–2017.12 **Ph.D., Computer Science**, *Simon Fraser University*, Burnaby, Canada.
Supervisor: Prof. Jian Pei
Thesis: *Subspace Clustering Methods for Understandable Information Organization*
- 2009.09–2012.06 **M.Sc., Computer Science**, *LAMDA, Nanjing University*, Nanjing, China.
Advisors: Prof. Yuan Jiang and Prof. Zhi-Hua Zhou
Thesis: *Research on Machine Learning Methods by Using Implicit Constraints*
- 2008.07–2008.12 **Exchange, TF–NUS LEARN**, *National University of Singapore*, Singapore.
- 2005.09–2009.06 **B.Sc., Computer Science**, *Nanjing University*, Nanjing, China.

Employment

- 2018.09–Present **Assistant Professor**, *University of Washington*, Tacoma, WA, USA.
- 2018.03–2018.07 **Machine Learning Engineer**, *KW Labs Ltd, Ever AI*, Vancouver, BC, Canada.
- 2016.03–2018.08 **Data Scientist**, *GeNA Lab, Simon Fraser University*, Burnaby, BC, Canada.

Research Interests

- Subspace mining feature transformation, dimensionality reduction, and feature selection
- Unsupervised clustering, multi-clustering, time-series clustering, and multi-view/source clustering
- Semi-supervised distance metric learning and multi-view/source learning
- Supervised Representation learning in deep learning, deep model interpretation, time-series forecasting, and time-series classification
- Applications Computer Vision, Cybersecurity, Networking, Healthcare, HCI, and Smart City

Grants and Projects

- 2020 PI in “Phenotyping and Time Series Analysis in Healthcare”, KenSci, 60,000 USD
- 2019–2021 PI in “Student Travel Grant of KDD’19 and KDD’20”, NSF, 20,000 USD
- 2020 Co-PI in “I-Corps™ Teams”, NSF, 50,000 USD
- 2018–2020 Co-PI in “Data Analytics for Cybersecurity”, Infoblox, 240,000 USD

Publications

Journal Articles

- [Hu-kais18] Juhua Hu and Jian Pei. **Subspace multi-clustering: A review**. Knowledge and Information Systems (KAIS), 56(2): 257-284, 2018.
- [Hu-kais17] Juhua Hu, Qi Qian, Jian Pei, Rong Jin and Shenghuo Zhu. **Finding multiple stable clusterings**. Knowledge and Information Systems (KAIS), 51(3): 991-1021, 2017.
- [Hu-tkdd15] Juhua Hu, De-Chuan Zhan, Xintao Wu, Yuan Jiang and Zhi-Hua Zhou. **Pair-wise specific distance learning from physical linkages**. ACM Transactions on Knowledge Discovery from Data (TKDD), 9(3): Article 20, 2015.
- [Hu13] Juhua Hu, Yuan Jiang and Zhi-Hua Zhou. **A co-training method based on teaching-learning model**. Journal of Computer Research and Development, 50(11): 2262–2268, 2013 (Best Student Paper Award in 2012 National Conference on Agent Theory and Applications, in Chinese with English abstract).

Conference Papers

- [Qian20] Qi Qian, Juhua Hu, and Hao Li. **Hierarchically Robust Representation Learning**. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2020. (Acceptance rate: 1,470/6,656=22%)
- [Yu19] Bin Yu, Giovanna Graciani, Anderson Nascimento, and Juhua Hu. **Cost-adaptive Neural Networks for Peak Volume Prediction with EMM Filtering**. IEEE International Conference on Big Data (BigData), 2019.
- [Qian19] Qi Qian, Lei Shang, Baigui Sun, Juhua Hu, Hao Li, and Rong Jin. **Soft-Triple Loss: Deep Metric Learning Without Triplet Sampling**. IEEE International Conference on Computer Vision (ICCV), 2019. (Acceptance rate: 1,077/4,303=25%)
- [Chu18] Lingyang Chu, Xia Hu, Juhua Hu, Lanjun Wang, and Jian Pei. **Exact and consistent interpretation for piecewise linear neural networks: A closed form solution**. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2018. (Acceptance rate: 107/983=10.9%)
- [Hu-icdm15] Juhua Hu, Qi Qian, Jian Pei, Rong Jin and Shenghuo Zhu. **Finding multiple stable clusterings**. IEEE International Conference on Data Mining (ICDM), 2015. (Acceptance rate: 68/810=8.4%. Best Paper Candidate)
- [Qian14] Qi Qian, Juhua Hu, Rong Jin, Jian Pei and Shenghuo Zhu. **Distance metric learning using dropout: A structured regularization approach**. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2014. (Acceptance rate: 151/1,036=14.6%)
- [Hu14] Juhua Hu, Jian Pei and Jie Tang. **How can I index my thousands of photos effectively and automatically? An unsupervised feature selection approach**. SIAM International Conference on Data Mining (SDM), 2014. (Acceptance rate: 60/389=15.4%)

- [Li12] Yu-Feng Li, Ju-Hua Hu, Yuan Jiang and Zhi-Hua Zhou. **Towards discovering what patterns trigger what labels**. AAAI Conference on Artificial Intelligence (AAAI), 2012. (Acceptance rate: 294/1,129=26%)

Honors and Awards

- 2015.11 **Borden Ladner Gervais Graduate Scholarship**, *Simon Fraser University*.
2015.11 **Travel and Minor Research Award**, *Simon Fraser University*.
2015.10 **Student Travel Award**, *ICDM'15*.
2015.09 **Best Paper Candidate**, *ICDM'15*.
 - o Finding multiple stable clusterings
2015.08 **Graduate Fellowship**, *Simon Fraser University*.
2015.08 **Graduate Prize in Computing Science**, *Simon Fraser University*.
2014.11 **Helmut & Hugo Eppich Family Graduate Scholarship**, *Simon Fraser University*.
2014.11 **Travel and Minor Research Award**, *Simon Fraser University*.
2014.06 **Graduate Fellowship**, *Simon Fraser University*.
2014.03 **Student Travel Award**, *SDM'14*.
2014.03 **Travel and Minor Research Award**, *Simon Fraser University*.
2013.11 **Robar Industries Limited Graduate Scholarship**, *Simon Fraser University*.
2013.07 **Outstanding Master Thesis of Jiangsu Province**, *Nanjing University*.
2012.08 **Best Student Paper Award**, *2012 National Conference on Agent Theory and Applications*, Changchun, China.
 - o A co-training method based on teaching-learning model
2012.07 **Outstanding Master Thesis of Computer Science and Technology Nomination Award**, *Nanjing University*.
2008.11 **TF-NUS LEARN Award**, *National University of Singapore*.
2008.12 **Outstanding Graduate**, *Nanjing University*.

Experience

Talks

- 2020.06 **2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition, Seattle, WA [Virtual]**, *Poster presentation*.
2019.04 **KenSci**, *Understandable Information Organization*.
2018.10 **Infoblox**, *Understandable Information Organization*.
2018.03 **University of Washington Tacoma**, *Understandable Information Organization*.
2015.11 **2015 IEEE International Conference on Data Mining, Atlantic City, NJ**, *Oral presentation*.
2014.08 **2014 SIGKDD Conference on Knowledge Discovery and Data Mining, New York, NY**, *Oral presentation*.
2014.05 **NSERC-Applied Sciences Industry Networking Event**, *Poster Presentation*.

2014.04 **2014 SIAM International Conference on Data Mining, Philadelphia, PA, Oral Presentation.**

2012.08 **2012 National Conference on Agent Theory and Applications, Changchun, China, Oral presentation.**

Teaching

Spring 2020 **TCSS 551: Big Data Analytics**, UNIVERSITY OF WASHINGTON | TACOMA.

Spring 2020 **TCSS 422: Operating Systems**, UNIVERSITY OF WASHINGTON | TACOMA.

Winter 2020 **TCSS 551: Big Data Analytics**, UNIVERSITY OF WASHINGTON | TACOMA.

Winter 2020 **TCSS 422: Operating Systems**, UNIVERSITY OF WASHINGTON | TACOMA.

Spring 2019 **TCSS 551: Big Data Analytics**, UNIVERSITY OF WASHINGTON | TACOMA.

Spring 2019 **TCSS 422: Operating Systems**, UNIVERSITY OF WASHINGTON | TACOMA.

Autumn 2018 **TCSS 551: Big Data Analytics**, UNIVERSITY OF WASHINGTON | TACOMA.

Fall 2017 **CMPT454: Database Systems II**, SIMON FRASER UNIVERSITY | BURNABY.

Fall 2014 **CMPT354: Database Systems I**, SIMON FRASER UNIVERSITY | SURREY.

Organizing Committee

KDD **Student Travel Awards Chair**, *ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, 2020, 2019.

International Program Committee Member

KDD **ACM SIGKDD Conference on Knowledge Discovery and Data Mining**, 2020, 2016.

ICML **The International Conference on Machine Learning**, 2019.

NIPS/NeurIPS **The Conference on Neural Information Processing Systems**, 2019, 2018.

ICLR **The International Conference on Learning Representations**, 2021, 2020, 2019.

AAAI **The AAAI Conference on Artificial Intelligence**, 2021, 2020, 2019, 2018, 2017.

IJCAI **The International Joint Conference on Artificial Intelligence**, 2020, 2019, 2018.

CIKM **The ACM International Conference on Information and Knowledge Management**, 2019.

SDM **The SIAM International Conference on Data Mining**, 2021.

PAKDD **The Pacific-Asia Conference on Knowledge Discovery and Data Mining**, 2020, 2019.

ACML **The Asian Conference on Machine Learning**, 2020, 2019, 2018, 2017.

DASFAA **The International Conference on Database Systems for Advanced Applications**, 2021, 2020, 2019, 2018.

PRICAI **The Pacific Rim International Conference on Artificial Intelligence**, 2020, 2019, 2018, 2016.

Editorial Board

Big Data Networks, *specialty section of Frontiers in Big Data, Frontiers in Computer Science, Frontiers in ICT and Frontiers in Digital Humanities.*

IDA **Intelligent Data Analysis.**

Journal Reviewer

TPAMI **IEEE Transactions on Pattern Analysis and Machine Intelligence.**

TKDE **IEEE Transactions on Knowledge and Data Engineering.**

TKDD **ACM Transactions on Knowledge Discovery from Data.**

HISC **Health Information Science and Systems.**

KAIS **Knowledge and Information Systems.**

NN **Neural Networks.**

JCST **Journal of Computer Science and Technology.**