Hady W. LAUW

School of Computing and Information Systems
Singapore Management University (SMU)
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Education

PhD, Nanyang Technological University, Singapore, 2008

Bachelor of Engineering, Nanyang Technological University, Singapore, 2002
First Class Honours

Academic Appointments

Associate Professor of Computer Science, School of Computing and Information Systems, SMU, Apr 2021 - Present

Associate Professor of Information Systems, School of Computing and Information Systems, SMU, Jul 2018 - Mar 2021

Assistant Professor of Information Systems, School of Computing and Information Systems, SMU, Jan 2012 - Jun 2018

Academic Administrative Positions

Director, BSc (Computer Science) Programme, School of Computing and Information Systems, SMU, Jul 2018 - Present

Other Positions and Affiliations

Scientist, Data Mining Department, A*STAR Institute for Infocomm Research, Singapore, Apr 2010 - Dec 2011

Postdoctoral Researcher, Search Labs, Microsoft Research, United States of America, Mar 2008 - Mar 2010

System Analyst (Trade & Industry), CrimsonLogic Singapore, Singapore, Jan 2003 - Nov 2003

Awards and Honors

Distinguished Paper Award, International Joint Conference on Artificial Intelligence (IJCAI-20), 2021

Educational Research Fellow, Singapore Management University, 2019

Nominee for the Excellent Teacher Award, SMU Undergraduate Teaching Excellence Awards 2017, Singapore Management University, 2017

National Research Foundation (NRF) Fellow, Class of 2016, Singapore National Research Foundation, 2016

Lee Kong Chian (LKC) Fellow, Lee Kong Chian Fund for Excellence from the Lee Foundation, 2016

Nominee for the Most Promising Teaching Award,SMU Teaching Excellence Awards 2015, Singapore Management University, 2015

Nominee for the Outstanding Paper Award, AAAI Conference on Artificial Intelligence (AAAI'14), 2014

A*STAR Graduate Scholarship, full funding for PhD study, Agency for Science, Technology and Research (A*STAR), 2004

Goh Keng Swee Scholarship, full funding for undergraduate study, Association of Banks in Singapore, 1999

ASEAN Scholarships, full funding for secondary and pre-university studies, Singapore Ministry of Education, 1995

Professional Memberships

Chair, Singapore Chapter of ACM SIGKDD, 2017 - 2023

Member, SIAM, 2016 - 2018

Member, AAAI, 2014 - 2023

Senior Member, IEEE Computer Society, 2013 - 2023

Senior Member, ACM, 2008 - 2023

Senior Member, IEEE, 2005 - 2023

RESEARCH

Research Interests

Preference mining and recommender system
Visual analytics and dimensionality reduction
Web search and mining

Publications

Journal Articles [Refereed]

Learning to rank aspects and opinions for comparative explanations, by LE, Trung-Hoang; LAUW, Hady W.. (2025). *Machine Learning, 114* (17), 1-20. https://doi.org/10.1007/s10994-024-06699-5 (Published)

Question-attentive review-level explanation for neural rating regression
, by LE, Trung-Hoang; LAUW, Hady W.. (2024). *ACM Transactions on Intelligent Systems and Technology, 15* (6), 1-25. https://doi.org/10.1145/3699516 (Published)

Latent representation learning for geospatial entities, by LEE, Ween Jiann; LAUW, Hady W.. (2024). *ACM Transactions on Spatial Algorithms and Systems, 10* (4), 1-31. https://doi.org/10.1145/3663474 (Published)

Aligning human and computational coherence evaluations, by LIM, Jia Peng; LAUW, Hady W.. (2024). *Computational Linguistics, 50* (3), 893-952. https://doi.org/10.1162/coli_a_00518 (Published)

Topic modeling on document networks with Dirichlet Optimal Transport Barycenter, by ZHANG, Delvin Ce; LAUW, Hady W.. (2024). *IEEE Transactions on Knowledge and Data Engineering, 36* (3), 1328-1340. https://doi.org/10.1109/TKDE.2023.3303465 (Published)

Adaptive content-aware influence maximization via online learning to rank, by THEOCHARIDIS, Konstantinos; Karras, Panagiotis; Terrovitis, Manolis; Skiadopoulos, Spiros; LAUW, Hady W.. (2024). *ACM Transactions on Knowledge Discovery from Data, 18* (6), 1-35. https://doi.org/10.1145/3651987 (Published)

Memory network-based interpreter of user preferences in content-aware recommender systems, by TRAN, Nhut-Thuat; LAUW, Hady W.. (2023). *ACM Transactions on Intelligent Systems and Technology, 14* (6), 1-28. https://doi.org/10.1145/3625239 (Published)

Robust Bidirectional Poly-Matching, by LEE, Ween Jiann; TKACHENKO, Maksim, LAUW, Hady W.. (2023). *IEEE Transactions on Knowledge and Data Engineering, 35* (10), 10762-10774. https://doi.org/10.1109/TKDE.2023.3266480 (Published)

Performance Evaluation of Aggregation-based Group Recommender Systems for Ephemeral Groups, by CEH-VARELA, Edgar; CAO, Huiping; LAUW, Hady W.. (2022). *ACM Transactions on Intelligent Systems and Technology, 13* (6), 1-26. https://doi.org/10.1145/3542804 (Published)

Variational learning from implicit bandit feedback, by TRUONG, Quoc Tuan; LAUW, Hady W.. (2021). *Machine Learning, 110* (8), 2085-2105. https://doi.org/10.1007/s10994-021-06028-0 (Published)

Exploring Cross-Modality Utilization in Recommender Systems, by TRUONG, Quoc-Tuan; SALAH, Aghiles; TRAN, Thanh-Binh; GUO, Jingyao; LAUW, Hady W.. (2021). *IEEE Internet Computing, 25* (4), 50-57. https://doi.ieeecomputersociety.org/10.1109/MIC.2021.3059027 (Published)

Efficient retrieval of matrix factorization-based top-k recommendations: A survey of recent approaches, by LE, Dung D.; LAUW, Hady Wirawan. (2021). *Journal of Artificial Intelligence Research, 70* 1441-1479. https://doi.org/10.1613/jair.1.12403 (Published)

Cornac: A Comparative Framework for Multimodal Recommender Systems, by SALAH, Aghiles; TRUONG, Quoc-Tuan; LAUW, Hady W.. (2020). *Journal of Machine Learning Research, 21* (95), 1-5. (Published)

Comparative Relation Generative Model, by TKACHENKO, Maksim; LAUW, Hady W.. (2017). *IEEE Transactions on Knowledge and Data Engineering, 29* (4), 771-783. https://doi.org/10.1109/TKDE.2016.2640281 (Published)

Micro-review synthesis for multi-entity summarization, by NGUYEN, Thanh-Son; LAUW, Hady W.; TSAPARAS, Panayiotis. (2017). *Data Mining and Knowledge Discovery, 31* (5), 1189-1217. https://doi.org/10.1007/s10618-017-0491-4 (Published)

Probabilistic Models for Contextual Agreement in Preferences, by DO, Loc; LAUW, Hady W.. (2016). *ACM Transactions on Information Systems, 34* (4), 21:1-33. https://doi.org/10.1145/2854147 (Published)

Semantic Visualization with Neighborhood Graph Regularization, by LE, Tuan M. V.; LAUW, Hady W.. (2016). *Journal of Artificial Intelligence Research, 55* 1091-1133. https://doi.org/10.1613/jair.4983 (Published)

A Cooperative Coevolution Framework for Parallel Learning to Rank, by WANG, Shuaiqiang; WU, Yun; GAO, Byron J.; WANG, Ke; LAUW, Hady W.; MA, Jun. (2015). *IEEE Transactions on Knowledge and Data Engineering, 27* (12), 3152-3165. https://doi.org/10.1109/TKDE.2015.2453952 (Published)

Review Selection Using Micro-Reviews, by NGUYEN, Thanh-Son; LAUW, Hady W.; TSAPARAS, Panayiotis. (2015). *IEEE Transactions on Knowledge and Data Engineering, 27* (4), 1098-1111. https://doi.org/10.1109/TKDE.2014.2356456 (Published)

Generative Models for Item Adoptions Using Social Correlation, by CHUA, Freddy Chong Tat; LAUW, Hady W.; LIM, Ee Peng. (2013). *IEEE Transactions on Knowledge and Data Engineering, 25* (9), 2036-2048. http://doi.org/10.1109/TKDE.2012.137 (Published)

Entity Synonyms for Structured Web Search, by CHENG, Tao; LAUW, Hady W.; PAPARIZOS, Stelios. (2012). *IEEE Transactions on Knowledge and Data Engineering, 24* (10), 1862-1875. https://doi.org/10.1109/TKDE.2011.168 (Published)

Organizing User Search Histories, by HWANG, Heasoo; LAUW, Hady W.; GETOOR, Lise; NTOULAS, Alexandros. (2012). *IEEE Transactions on Knowledge and Data Engineering, 24* (5), 912-925. http://doi.org/10.1109/TKDE.2010.251 (Published)

Quality and Leniency in Online Collaborative Rating Systems, by LAUW, Hady W.; LIM, Ee Peng; WANG, Ke. (2012). *ACM Transactions on the Web, 6* (1), 4-1-4-27. https://doi.org/10.1145/2109205.2109209 (Published)

STEvent: Spatio-Temporal Event Model for Social Network Discovery, by LAUW, Hady W.; LIM, Ee Peng; PANG, Hwee Hwa; TAN, Teck-Tim. (2010). *ACM Transactions on Information Systems, 28* (3), 1-32. https://doi.org/10.1145/1777432.1777438 (Published)

Homophily in the Digital World <i>A LiveJournal Case Study</i>, by LAUW, Hady W.; SHAFER, John C.; AGRAWAL, Rakesh; NTOULAS, Alexandros. (2010). *IEEE Internet Computing, 14* (2), 15-23. https://doi.org/10.1109/MIC.2010.25 (Published)

Bias and controversy in evaluation systems, by LAUW, Hady W.; LIM, Ee Peng; WANG, Ke. (2008). *IEEE Transactions on Knowledge and Data Engineering, 20* (11), 1490-1504. http://doi.org/10.1109/tkde.2008.77 (Published)

Social network discovery by mining spatio-temporal events, by LAUW, Hady W.; LIM, Ee Peng; PANG, Hwee Hwa; TAN, Teck-Tim. (2005). *Computational and Mathematical Organization Theory, 11* (2), 97-118. https://doi.org/10.1007/s10588-005-3939-9 (Published)

Shared-storage auction ensure data availability, by LAUW, Hady W.; HUI, Siu-Cheung; LAI, Edmund M. K.. (2004). *IEEE Internet Computing, 8* (5), 22-28. http://doi.org/10.1109/MIC.2004.50 (Published)

Journal Articles [Non-Refereed]

Dual-target disjointed cross-domain recommendation mediated via latent user preferences, by DO, Jamie Hieu; LAUW, Hady W.. (2025). *ACM SIGKDD Explorations Newsletter, 27* (1), 52-61. https://doi.org/10.1145/3748239.3748245 (Published)

The b2biers system: A content-based perspective on maximizing influence and subscription in social networks, by THEOCHARIDIS, Konstantinos; LAUW, Hady W.. (2025). *ACM SIGKDD Explorations Newsletter, 27* (1), 32-51. https://doi.org/10.1145/3748239.374824 (Published)

Book Chapters

Biases in trust-based systems, by LAUW, Hady W.. (2014). In X. Liu, A. Datta, & Ee-Peng Lim (Ed.), *Computational trust models and machine learning* (pp. 157-173) Boca Raton, FL: CRC Press. https://worldcat.org/isbn/9781482226669 (Published)

Encyclopedia Entries

Web social mining, by LAUW, Hady W.; LIM, Ee Peng. (2009). In Miriam A. Drake (Ed.), *Encyclopedia of library and information science* Boca Raton, FL: CRC Press. http://worldcat.org/isbn/9780849338946 (Published)

Conference Proceedings

A partition cover approach to tokenization, by LIM, Jia Peng; TAN, Shawn; CHOO, Davin; LAUW, Hady W.. (2025.0). *Proceedings of the 39th Conference on Neural Information Processing Systems (NeurIPS 2025), San Diego, CA, December 2-7,* (pp. 1-33) San Diego, CA: https://openreview.net/forum?id=prGyR9id7X&referrer=%5Bthe%20profile%20of%20Hady%20W.%20Lauw%5D(%2Fprofile%3Fid%3D~Hady_W._Lauw1) (Published)

Parameter-efficient variational autoencoder for multimodal multi-interest recommendation, by TRAN, Nhu-Thuat; LAUW, Hady W.. (2025.0). *MM '25: Proceedings of the 33rd ACM International Conference on Multimedia, Dublin, Ireland, October 27-31* , (pp. 6412-6420) New York : ACM. https://doi.org/10.1145/3746027.3754597 (Published)

Optimal transport alignment of user preferences from ratings and texts, by TRAN, Nhu-Thuat; LAUW,

Hady W.. (2025.0). *UAI '25: Proceedings of the Forty-First Conference on Uncertainty in Artificial Intelligence, Rio de Janeiro Brazil, July 21-25*
, (pp. 4251-4265) New York: ACM. https://doi.org/10.5555/3762387.3762574 (Published)

Selecting comparative sets of reviews across multiple items, by LE, Trung-Hoang; LAUW, Hady W.. (2025.0). *Proceedings 28th International Conference on Extending Database Technology (EDBT 2025): Barcelona, Spain, March 25-28,* (pp. 13-24) Barcelona, Spain: https://openproceedings.org/2025/conf/edbt/paper-12.pdf (Published)

A contrastive framework with user, item and review alignment for recommendation, by DONG, Hoang; FANG, Yuan; LAUW, Hady W.. (2025.0). *WSDM '25: Proceedings of the Eighteenth ACM International Conference on Web Search and Data Mining, Hannover, Germany, 2025 March 10-14*
, (pp. 117-126) New York: ACM. https://doi.org/10.1145/3701551.3703530 (Published)

VARIUM: Variational Autoencoder for multi-interest Representation with Inter-User Memory, by TRAN, Nhu-Thuat; LAUW, Hady W.. (2025.0). *WSDM '25: Proceedings of the Eighteenth ACM International Conference on Web Search and Data Mining, Hannover, Germany, 2025 March 10-14*
, (pp. 156-164) New York: ACM. http://doi.org/10.1145/3701551.3703558 (Published)

Interpreting topic models in byte-pair encoding space, by LIM, Jia Peng; LAUW, Hady W.. (2025.0). *Proceedings of the 31st International Conference on Computational Linguistics, Abu Dhabi, UAE, 2025 January 19-24*
, (pp. 10810-10838) Abu Dhabi, UAE: ACL. https://aclanthology.org/2025.coling-main.720/ (Published)

Augmenting decision with hypothesis in reinforcement learning, by NGUYEN, Minh Quang; LAUW, Hady W.. (2024.0). *Proceedings of the 41st International Conference on Machine Learning (ICML 2024) : Vienna, Austria, July 21-27,* (pp. 41804-41820) Austria: PMLR. (Published)

Topic modeling on document networks with Dirichlet Optimal Transport Barycenter (Extended Abstract), by ZHANG, Delvin Ce; LAUW, Hady W.. (2024.0). *Proceedings of the 40th IEEE International Conference on Data Engineering (ICDE 2024) : Utrecht, Netherlands, May 13-17,* (pp. 5743-5744) Utrecht, Netherlands: IEEE. https://doi.org/10.1109/ICDE60146.2024.00503 (Published)

Towards automated slide augmentation to discover credible and relevant links, by DINUSHKA, Dilan; POSKITT, Christopher M.; KOH, Kwan Chin; MOK, Heng Ngee; LAUW, Hady W.. (2024.0). *Artificial Intelligence in Education: 25th International Conference, AIED 2024, Recife, Brazil, July 8-12,* (pp. 200-208) Cham: Springer. https://doi.org/10.1007/978-3-031-64312-5_24 (Published)

Term importance for transformer-based QA retrieval : A case study of StackExchange, by TAN, Bryan Zhi Yang; LAUW, Hady W.. (2024.0). *Proceedings of the ACM Web Conference 2024 (WWW 2024) : Singapore, May 13-17*
, (pp. 601-604) Singapore: Association for Computing Machinery. https://doi.org/10.1145/3589335.3651568 (Published)

Cornac-AB : An open-source recommendation framework with native A/B testing integration, by ONG, Darryl; TRUONG, Quoc-Tuan; LAUW, Hady W.. (2024.0). *Proceedings of the ACM Web Conference 2024 (WWW 2024) : Singapore, May 13-17*
, (pp. 1027-1030) Singapore: Association for Computing Machinery. https://doi.org/10.1145/3589335.3651241 (Published)

Text-attributed graph representation learning : Methods, applications, and challenges, by ZHANG, Delvin Ce; YANG, Menglin; YING, Rex; LAUW, Hady W.. (2024.0). *Proceedings of the ACM Web Conference 2024 (WWW 2024) : Singapore, May 13-17,* (pp. 1298-1301) Singapore: Association for Computing Machinery. https://doi.org/10.1145/3589335.3641255 (Published)

Learning multi-faceted prototypical user interests, by TRAN, Nhu-Thuat; LAUW, Hady W.. (2024.0). *Proceedings of the Twelfth International Conference on Learning Representations, Vienna, Austria, ICLR 2024, May 7,* (pp. 1-16) Vienna, Austria: ICLR. https://openreview.net/forum?id=MzjiMxlWab (Published)

Hypergraphs with attention on reviews for explainable recommendation, by JENDAL, Theis E.; LE, Trung-Hoang; LAUW, Hady W.; LISSANDRINI, Matteo; DOLOG, Peter; HOSE, Katja. (2024.0). *Advances in Information Retrieval: 46th European Conference on Information Retrieval, ECIR 2024, Glasgow, March 24-28: Proceedings,* (pp. 230-246) Cham: Springer. https://doi.org/10.1007/978-3-031-56027-9_14 (Published)

Community similarity based on user profile joins, by THEOCHARIDIS, Konstantinos; LAUW, Hady W..

(2024.0). *Proceedings 27th International Conference on Extending Database Technology (EDBT 2024) Paestum, Italy, March 25-28,* (pp. 572-583) Italy: EDBT. https://doi.org/10.48786/edbt.2024.49 (Published)

Disentangling transformer language models as superposed topic models, by LIM, Jia Peng; LAUW, Hady. (2023.0). *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing, Singapore, December 6-10*
, (pp. 8646-8666) Singapore: ACL. https://aclanthology.org/2023.emnlp-main.534 (Published)

Multi-representation Variational Autoencoder via iterative latent attention and implicit differentiation, by TRAN, Nhu-Thuat; LAUW, Hady W.. (2023.0). *CIKM '23: Proceedings of the 32nd ACM International Conference on Information and Knowledge Management, Birmingham, October 21-25,* (pp. 2462-2471) New York: ACM. https://doi.org/10.1145/3583780.3614980 (Published)

Continual collaborative filtering through gradient alignment, by DO, Jaime Hieu; LAUW, Hady W.. (2023.0). *Proceedings of the 17th ACM Conference on Recommender Systems, Singapore, 2023 September 18-22,* (pp. 1133-1138) New York: ACM. https://doi.org/10.1145/3604915.3610648 (Published)

Semantically constitutive entities in knowledge graphs, by CHIA, Chong Cher; TKACHENKO, Maksim; LAUW, Hady Wirawan. (2023.0). *Proceedings of the 34th International Conference on Database and Expert Systems Applications DEXA 2023, Penang, Malaysia, 2023 August 28-30,* (pp. 445-461) Penang, Malaysia: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-39847-6_36 (Published)

Hyperbolic graph topic modeling network with continuously updated topic tree, by ZHANG, Delvin Ce; YING, Rex; LAUW, Hady W.. (2023.0). *Proceedings of the ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Long Beach CA, August 6-10*
, (pp. 3206-3216) New York, USA: ACM. https://doi.org/10.1145/3580305.3599384 (Published)

Large-scale correlation analysis of automated metrics for topic models, by LIM, Jia Peng; LAUW, Hady W.. (2023.0). *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics, Toronto, Canada, 2023 Jul 9-14,* (pp. 13874-13898) Pennsylvania: Association for Computational Linguistics. https://doi.org/10.18653/v1/2023.acl-long.776 (Published)

Multi-lingual multi-partite product title matching, by TAY, Huan-Lin; TAY, Wei-Jie; LAUW, Hady W.. (2023.0). *Proceedings of the World Wide Web Conference: WWW 2023,* (pp. 99-102) New York, USA: ACM. https://doi.org/10.1145/3543873.3587322 (Published)

Concept-oriented transformers for visual sentiment analysis, by TRUONG, Quoc-Tuan; LAUW, Hady W.. (2023.0). *WSDM '23: Proceedings of the 16th ACM International Conference on Web Search and Data Mining, Singapore, February 27-March 3*
, (pp. 1111-1119) New York: ACM. https://doi.org/10.1145/3539597.3570437 (Published)

Mining competitively-priced bundle configurations, by YOUNG, Ezekiel Ong; LAUW, Hady W.. (2022.0). *2022 IEEE International Conference on Big Data (Big Data): Osaka, December 17-20: Proceedings,* (pp. 6844-6846) Piscataway, NJ: IEEE. https://doi.org/10.1109/BigData55660.2022.10020975 (Published)

Question-attentive review-level recommendation explanation, by LE, Trung-Hoang; LAUW, Hady W.. (2022.0). *Proceedings of the 2022 IEEE International Conference on Big Data (Big Data), Osaka, Japan, December 17-20,* (pp. 1-6) USA: IEEE. https://doi.org/10.1109/BigData55660.2022.10020538 (Published)

Towards reinterpreting neural topic models via composite activations, by LIM, Jia Peng; LAUW, Hady W.. (2022.0). *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing,* USA: https://preview.aclanthology.org/emnlp-22-ingestion/2022.emnlp-main.242/ (Published)

Meta-complementing the semantics of short texts in neural topic models, by ZHANG, Delvin Ce; LAUW, Hady W.. (2022.0). *Advances in Neural Information Processing Systems 36 (NeurIPS 2022): New Orleans, November 28-December 9,* USA: (Forthcoming)

Morphologically-aware vocabulary reduction of word embeddings, by CHIA, Chong Cher; TKACHENKO, Maksim; LAUW, Hady W.. (2022.0). *WI-IAT '22: Proceedings of the IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology 2022, Niagara Falls, Canada, November 17-20,* (pp. 56-63) Piscataway, NJ: IEEE. https://doi.org/10.1109/WI-IAT55865.2022.00018 (Published)

Variational graph author topic modeling, by ZHANG, Delvin Ce; LAUW, Hady W.. (2022.0). *KDD '22: Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, Washington, DC, August 14-18,* (pp. 2429-2438) New York: ACM. https://doi.org/10.1145/3534678.3539310 (Published)

Aligning dual disentangled user representations from ratings and textual content, by TRAN, Nhu-Thuat; LAUW, Hady W.. (2022.0). *KDD '22: Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, Washington, DC, August,* (pp. 1798-1806) New York: ACM. https://doi.org/10.1145/3534678.3539474 (Published)

Towards aligning slides and video snippets: Mitigating sequence and content mismatches, by LIU, Ziyuan; LAUW, Hady W.. (2022.0). *23rd International Conference on Artificial Intelligence in Education, AIED 2022: Durham, July 27-31: Proceedings,* (pp. 533-539) Cham: Springer. https://doi.org/10.1007/978-3-031-11644-5_45 (Published)

Dynamic topic models for temporal document networks, by ZHANG, Delvin Ce; LAUW, Hady W.. (2022.0). *Proceedings of the 39th International Conference on Machine Learning, PMLR 2022,* USA: https://proceedings.mlr.press/v162/zhang22n.html (Published)

AmpSum: adaptive multiple-product summarization towards improving recommendation captions, by TROUNG, Quoc-Tuan; ZHAO, Tong; YUAN, Changhe; LI, Jin; CHAN, Jim; PANTEL, Soo-Min; LAUW, Hady W.. (2022.0). *Proceedings of the 2022 ACM Web Conference, Lyon, France, April 25 - 29* , (pp. 2978-2988) New York: Association for Computing Machinery. https://doi.org/10.1145/3485447.3512018 (Published)

Collaborative curating for discovery and expansion of visual clusters, by LE, Duy Dung; LAUW, Hady W.. (2022.0). *WSDM '22: Proceedings of the 15th ACM International Conference on Web Search and Data Mining, Virtual, February 21-25* , (pp. 544-552) New York: ACM. https://doi.org/10.1145/3488560.3498504 (Published)

Robust bipoly-matching for multi-granular entities, by LEE, Ween Jiann; TKACHENKO, Maksim; LAUW, Hady W.. (2021.0). *2021 IEEE International Conference on Data Mining ICDM: Auckland, Virtual, December 7-10: Proceedings,* (pp. 1192-1197) Piscataway, NJ: IEEE. https://doi.org/10.1109/ICDM51629.2021.00143 (Published)

Topic modeling for multi-aspect listwise comparison, by ZHANG, Delvin Ce; LAUW, Hady W. . (2021.0). *CIKM '21: Proceedings of the ACM International Conference on Information and Knowledge Management, November 1-5, Virtual,* (pp. 2507-2516) New York: ACM. https://doi.org/10.1145/3459637.3482398 (Published)

Multi-modal recommender systems: Hands-on exploration, by TRUONG, Quoc-Tuan; SALAH, Aghiles Salah; LAUW, Hady W.. (2021.0). *RecSys'21: Proceedings of the 15th ACM Conference on Recommender Systems, September 27 - October 1, Virtual,* (pp. 834-837) New York: ACM. https://doi.org/10.1145/3460231.3473324 (Published)

Towards source-aligned variational models for cross-domain recommendation, by SALAH, Aghiles; TRAN, Thanh-Binh; LAUW, Hady W.. (2021.0). *RecSys'21: Proceedings of the 15th ACM Conference on Recommender Systems, September 27 - October 1, Virtual,* (pp. 176-186) New York: ACM. https://doi.org/10.1145/3460231.3474265 (Published)

Representation learning on multi-layered heterogeneous network, by ZHANG, Delvin Ce; LAUW, Hady W.. (2021.0). *Machine Learning and Knowledge Discovery in Databases. Research Track: European Conference, ECML PKDD 2021, Bilbao, Spain, September 13-17: Proceedings,* (pp. 399-416) Cham: Springer. https://doi.org/10.1007/978-3-030-86520-7_25 (Published)

Semi-supervised semantic visualization for networked documents, by ZHANG, Delvin Ce; LAUW, Hady W.. (2021.0). *Machine Learning and Knowledge Discovery in Databases. Research Track: European Conference, ECML PKDD 2021, Bilbao, Spain, September 13-17: Proceedings,* (pp. 762-778) Cham: Springer. https://doi.org/10.1007/978-3-030-86523-8_46 (Published)

Sentiment-oriented metric learning for text-to-image retrieval, by TRUONG, Quoc-Tuan; LAUW, Hady W.. (2021.0). *Advances in Information Retrieval: 43rd European Conference on IR Research ECIR 2021, Virtual, March 28 - April 1: Proceedings,* (pp. 634-649) Cham: Springer. https://doi.org/10.1007/978-3-030-72113-8_42 (Published)

Explainable recommendation with comparative constraints on product aspects, by LE, Trung-Hoang; LAUW, Hady W.. (2021.0). *WSDM '21: Proceedings of the 14th ACM International Conference on Web Search and Data Mining, Virtual, March 8-12,* (pp. 967-975) New York: ACM. https://doi.org/10.1145/3437963.3441754 (Published)

Bilateral variational autoencoder for collaborative filtering, by TRUONG, Quoc-Tuan; SALAH, Aghiles;

LAUW, Hady W.. (2021.0). *WSDM '21: Proceedings of the 14th ACM International Conference on Web Search and Data Mining, Virtual, March 8-12,* (pp. 292-300) New York: ACM. https://doi.org/10.1145/3437963.3441759 (Published)

Visual sentiment analysis for review images with item-oriented and user-oriented CNN: Reproducibility companion paper, by TRUONG, Quoc-Tuan; LAUW, Hady W.; AUMULLER, Martin; NITTA, Naoko. (2020.0). *MM '20: Proceedings of the 28th ACM International Conference on Multimedia, Seattle, October 12-16,* (pp. 4444-4447) New York: ACM. https://doi.org/10.1145/3394171.3414813 (Published)

Stochastically robust personalized ranking for LSH recommendation retrieval, by LE, Dung D.; LAUW, Hady W.. (2020.0). *Proceedings of the 34th AAAI Conference on Artificial Intelligence 2020, New York, February 7-12,* (pp. 4594-4601) Menlo Park, CA: AAAI Press. https://doi.org/10.1609/aaai.v34i04.5889 (Published)

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On mining rating dependencies in online collaborative rating networks, by LAUW, Hady W.; LIM, Ee Peng; WANG, Ke. (2009.0). *Advances in Knowledge Discovery and Data Mining: 13th Pacific-Asia Conference, PAKDD 2009, Bangkok, Thailand, April 27-30, 2009: Proceedings,* (pp. 1054-1061) Berlin: Springer Verlag. https://doi.org/10.1007/978-3-642-01307-2_113 (Published)

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On ranking controversies in Wikipedia: Models and evaluation, by VUONG, Ba-Quy; LIM, Ee Peng; SUN, Aixin; LE, Minh-Tam; LAUW, Hady Wirawan; CHANG, Kuiyu. (2008.0). *WSDM '08: Proceedings of the 2008 International Conference on Web Search and Data Mining: Stanford, CA, 2008 February 11-12,* (pp. 171-182) New York: ACM. http://doi.org/10.1145/1341531.1341556 (Published)

On improving Wikipedia search using article quality, by HU, Meiqun; LIM, Ee Peng; SUN, Aixin; LAUW, Hady W.; VUONG, Ba-Quy. (2007.0). *WIDM '07: Proceedings of the 9th Annual ACM International Workshop on Web Information and Data Management: Lisbon, Portugal, November 9,* (pp. 145-152) New York: ACM. https://doi.org/10.1145/1316902.1316926 (Published)

Measuring article quality in Wikipedia: Models and evaluation, by HU, Meiqun; LIM, Ee Peng; SUN, Aixin; LAUW, Hady W.; VUONG, Ba-Quy. (2007.0). *CIKM '07: Proceedings of the 16th ACM Conference on Information and Knowledge Management: Lisbon, Portugal, November 6-10,* (pp. 243-252) New York: ACM. https://doi.org/10.1145/1321440.1321476 (Published)

Summarizing review scores of "unequal" reviewers, by LAUW, Hady W.; LIM, Ee Peng; WANG, Ke. (2007.0). *2007 SIAM International Conference on Data Mining: April 26-28, Minneapolis, MN: Proceedings,* (pp. 539-544) Philadelphia, PA: SIAM. https://doi.org/10.1137/1.9781611972771.58 (Published)

TUBE (Text-cUBE) for discovering documentary evidence of associations among entities, by LAUW, Hady W.; LIM, Ee Peng; PANG, Hwee Hwa. (2007.0). *SAC '07: Proceedings of the 2007 ACM Symposium on Applied Computing, Seoul, Korea, 11-15 March,* (pp. 824-828) New York: ACM. https://doi.org/10.1145/1244002.1244185 (Published)

Measuring qualities of articles contributed by online communities, by LIM, Ee Peng; VUONG, Ba-Quy; LAUW, Hady W.; SUN, Aixin. (2006.0). *IEEE/WIC/ACM International Conference on Web Intelligence: WI 2006: 18-22 December 2006, Hong Kong, China: Proceedings,* (pp. 81-87) Los Alamitos, CA: IEEE Computer Society. http://doi.ieeecomputersociety.org/10.1109/WI.2006.115 (Published)

Bias and controversy: Beyond the statistical deviation, by LAUW, Hady W.; LIM, Ee Peng; WANG, Ke. (2006.0). *KDD 2006: Proceedings of the Twelfth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining: Philadelphia, PA, August 20-23,* (pp. 625-630) New York: ACM. https://doi.org/10.1145/1150402.1150478 (Published)

Mining social network from spatio-temporal events, by LAUW, Hady W.; LIM, Ee Peng; TAN, Teck Tim; PANG, Hwee Hwa. (2005.0). *Workshop on Link Analysis, Counterterrorism and Security 2005: Proceedings, Newport Beach, 23 April,* (pp. 82-93) Kingston, Canada: Queen's University. (Published)

Conference Papers

Estimating the quality of postings in the real-time web, by LAUW, Hady W.; NTOULAS, Alexandros; KENTHAPADI, Krishnaram. (2010.0). *Workshop on Search in Social Media 3rd SSM 2010 co-located with WSDM, February 3,* New York. (Presented)

Symphony: Enabling search-driven applications, by SHAFER, John C.; AGRAWAL, Rakesh; LAUW, Hady W.. (2009.0). *Workshop on Using Search Engine Technology for Information Management USETIM 2009 co-located with VLDB, August 24,* Lyon, France. (Published)

A multitude of opinions: Mining online rating data, by LAUW, Hady W.; LIM, Ee Peng. (2007.0). *National Science Foundation Symposium on Next Generation of Data Mining and Cyber-Enabled Discovery for Innovation NGDM 2007, October 10-12,* Baltimore, MD. (Presented)

Research Grants

Singapore Management University

Slide++: Automatic Augmentation of Academic Slides Towards AI-Enabled Student-Centred Learning, Tertiary Education Research Fund (TRF), Ministry of Education (MOE) , PI (Project Level): Hady W. LAUW, 2022, S$262,196

Lifelong Learning for Recommender Systems: Continual, Cross- Domain, and Cross-Platform Approaches, Research Programme, AI Singapore , PI (Project Level): Hady W. LAUW, 2022, S$885,240

Universal Pre-training of Graph Neural Networks, Academic Research Fund (AcRF) Tier 2, Ministry of Education (MOE) , PI (Project Level): FANG Yuan , Co-PI (Project Level): Jing JIANG, 2022, S$676,468

One-Shot Learning: A Crucial Learning Paradigm Towards Human-like Learning, AI Singapore Research Programme, AI Singapore , PI (Project Level): FANG Yuan , Co-PI (Project Level): Steven HOI, 2018, S$497,757.6

Dimensionality Reduction for Recommender Systems:
Unified Latent Co-representation of Multi-Modal Preference Signals, NRF Fellowship, National Research Foundation (NRF) , PI (Project Level): Hady W. LAUW, 2016, S$2,704,332

Closed-Loop Framework for Real-Time Retrieval of Personalized Recommendations, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): Hady W. LAUW, 2018, S$100,000

Other Institutions

ThriftCity, MDGF, MOE Decentralised Gap Funding PI (Project Level): Hady W. LAUW, 2021, SGD250,000

Intellectual Property

Application/Filed: Hady W. LAUW, "Context-Aware Query Recommendations, by Alexandros NTOULAS,

Heasoo HWANG, Lise GETOOR, Stelios PAPARIZOS and Hady W. LAUW", 16611

Granted: Hady W. LAUW, "Generating Synonyms Based on Query Log Data, by Stelios PAPARIZOS, Tao CHENG and Hady W. LAUW", 16612

TEACHING

Teaching Areas

Computational Thinking

Courses Taught

<u>Singapore Management University</u>

Undergraduate Programmes :

    Data Structures and Algorithms

Postgraduate Professional Programmes :

    Project

    Recommender Systems

Postgraduate Research Programmes :

    Empirical Research Project 1

    Empirical Research Project 2

    Empirical Research Project 3

    Empirical Research Project 4

    Machine Learning

THESES AND DISSERTATIONS

Theses and Dissertations Supervised

<u>Singapore Management University</u>

Supervisor, "Preference Learning and Similarity Learning Perspectives on Personalized Recommendation", Dissertation by LE Duy Dung, PhD in Computer Science, Singapore Management University, 2019

Supervisor, "Modeling Sequential and Basket-Oriented Associations for Top-K Recommendation", Dissertation by LE DUC TRONG, PhD in Information Systems, Singapore Management University, 2019

Supervisor, "Comparison Mining from Text", Dissertation by Maksim TKACHENKO, PhD in Information Systems, Singapore Management University, 2018

Supervisor, "Entity Summarization of Review and Micro-Reviews", Dissertation by NGUYEN THANH SON, PhD in Information Systems, Singapore Management University, 2018

Supervisor, "Mining Diverse Consumer Preferences for Bundling and Recommendation", Dissertation by DO HA LOC, PhD in Information Systems, Singapore Management University, 2017

Supervisor, "Probabilistic Models for Semantic Visualization and its Applications", Dissertation by LE VAN MINH TUAN, PhD in Information Systems, Singapore Management University, 2017

Theses and Dissertations Assessed

Singapore Management University

Committee Member, "Social Software Development: Insights and Solutions", Dissertation by ABHISHEK SHARMA, PhD in Information Systems, Singapore Management University, 2019

Committee Member, "Learning Latent Characteristics of Locations-based Social Networking Data", Dissertation by DOAN THANH NAM, PhD in Information Systems, Singapore Management University, 2018

Committee Member, "Overfitting in Automated Program Repair: Challenges and Solutions", Dissertation by LE DINH XUAN BACH, PhD in Information Systems, Singapore Management University, 2018

Committee Member, "Recommending APIs for Software Evolution", Dissertation by FERDIAN THUNG, PhD in Information Systems, Singapore Management University, 2018

Committee Member, "Online Learning with Nonlinear Models", Dissertation by DOYEN SAHOO, PhD in Information Systems, Singapore Management University, 2018

Committee Member, "Fusion Based Approaches for Software Fault Localization and Specification Mining", Dissertation by LE BUI TIEN DUY, PhD in Information Systems, Singapore Management University, 2017

Committee Member, "Aspect Discovery from Product Reviews", Dissertation by DING YING, PhD in Information Systems, Singapore Management University, 2017

Committee Member, "Modeling Adoption Dynamics in Social Networks", Dissertation by LUU MINH DUC, PhD in Information Systems, Singapore Management University, 2017

Committee Member, "Event Identification and Analysis on Twitter", Dissertation by DIAO QIMING, PhD in Information Systems, Singapore Management University, 2015

Other Institutions

Committee Member, "Statistical And Deep Learning Models For Software Engineering Corpora", Dissertation by HOANG Van Duc Thong, Singapore Management University, 2020

UNIVERSITY SERVICE

Singapore Management University

Committee Member, Faculty Senate, Mar 2021 - Present

EXTERNAL SERVICE – PROFESSIONAL

Member, Senior Program Committee, International Conference on Database Systems for Advanced Applications (DASFAA), 2023 - 2024

Member, Senior Program Committee, SIAM Conference on Data Mining (SDM), 2023 - 2024

Program Chair, Organizing Committee, The ACM Web Conference 2024, 2023 - 2024

Member, Senior Program Committee, Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2023 - 2024

Communication Chair, Organizing Committee, The ACM Web Conference 2023, 2022 - 2023

Chairperson, Organizing Committee, 16th ACM International Conference on Web Search and Data Mining (WSDM), 2022 - 2023

Committee Chair, Program Committee, Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2020

Member, Senior Program Committee, AAAI Conference on Artificial Intelligence (AAAI), 2020 - 2022

Member, Senior Program Committee, International Joint Conference on Artificial Intelligence (IJCAI), 2020 - 2023

Reviewer Journal Article, IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2020 - 2022

Reviewer Journal Article, IEEE Transactions on Multimedia, 2020 - 2022

Committee Chair, Workshop Co-Chair, Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2019

Committee Chair, Organizing Committee, International Conference on Advanced Data Mining and Applications (ADMA), 2017

Committee Chair, Data Challenges Co-chair, ACM International Conference on Information and Knowledge Management (CIKM), 2017

Member, Program Committee, International Joint Conference on Artificial Intelligence (IJCAI), 2016

Member, Program Committee, AAAI Conference on Artificial Intelligence (AAAI), 2016 - 2019

Reviewer Journal Article, ACM Transactions on the Web (TWEB), 2015 - 2016

Member, Program Committee, Asia Pacific Web Conference (APWeb), 2015

Reviewer Journal Article, The International Journal on Very Large Data Bases (VLDBJ), 2015

Member, Program Committee, ACM Conference on Online Social Networks (COSN), 2015

Member, Program Committee (years: 2014, 2017-2020), International AAAI Conference on Weblogs and Social Media (ICWSM), 2014 - 2018

Member, Program Committee, IEEE International Conference on Data Science and AdvancedAnalytics (DSAA), 2014 - 2017

Committee Chair, Tutorials Co-Chair 2017, Panels Co-Chair 2015, Sponsorship Co-Chair 2013, IEEE/ACM International Conference on Social Network Analysis and Mining (ASONAM), 2013

Member, Program Committee (years: 2012, 2015-2016, 2018-2019), Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2012 - 2019

Section Co-Editor, Encyclopedia of Social Network Analysis and Mining (ESNAM), 2012 - 2013

Reviewer Journal Article, IEEE Communications Magazine (COMMAG), 2012 - 2015

Reviewer Journal Article, ACM Transactions on Knowledge Discovery from Data (TKDD), 2012 - 2023

Member, Program Committee, ACM Conference on Web Search and Data Mining (WSDM), 2012

Member, Program Committee (years: 2011, 2013, 2014), International Conference on Database Systems for Advanced Applications (DASFAA), 2011 - 2014

Committee Chair, Local Arrangements Co-Chair, International Conference on Social Informatics (SocInfo), 2011

Member, Program Committee, IEEE International Conference on Data Engineering (ICDE), 2011

Member, Program Committee (years: 2011, 2014, 2018-2023), SIAM Conference on Data Mining (SDM), 2011 - 2023

Reviewer Journal Article, IEEE Transactions on Knowledge and Data Engineering (TKDE), 2011 - 2023

Member, Program Committee (2022-2023: Senior PC, 2019: IR Track, 2013-2016, 2018: Web Mining Track, 2011: Demo Track), International World Wide Web Conference (WWW), 2011 - 2022

Reviewer Journal Article, Statistical Analysis & Data Mining (SAM), 2011 - 2014

Member, Program Committee, ACM Conference on Knowledge Discovery and Data Mining (KDD), 2010 - 2022

Reviewer Journal Article, Social Network Analysis and Mining (SNAM), 2010 - 2016

Member, Program Committee, International Conference on Advanced Social Networks Analysis and Mining (ASONAM), 2010 - 2014

Member, Program Committee, ACM Conference on Electronic Commerce (EC), 2010

Member, Program Committee (Demo Track), European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECMLPKDD), 2010 - 2011

Member, Program Committee (2018: Short Paper Track, 2014-2016: Knowledge Management Track, 2013: Database Track, 2010-2011: Information Retrieval Track, 2011: Poster Track), ACM International Conference on Information and Knowledge Management (CIKM), 2010 - 2018

Editor Associate Editor, ACM Transactions on Intelligent Systems and Technology (TIST), 2010 - 2023

Reviewer Journal Article, ACM Transactions on Information Systems (TOIS), 2010 - 2014

Member, Program Committee (Poster Track), ACM SIGIR Conference (SIGIR), 2010

Member, Program Committee (years: 2010 - 2011, 2014, 2018 - 2019), IEEE International Conference on Data Mining (ICDM), 2010 - 2018

Member, Program Committee, International Conference on Web Information System Engineering (WISE), 2010 - 2013

Reviewer Journal Article, IEEE Internet Computing, 2009