

# Hui-Ju Hung 洪慧儒

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## SUMMARY

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Hui-Ju Hung's research centers on graph optimization algorithms, machine learning on graphs, and social network analysis. Her publications appear in selective venues, including a full research paper at The Web Conference (WWW), two full research papers at KDD, two full and one short research papers at CIKM, one full research paper at ICDCS, one full research paper at WSDM, and one journal paper in IEEE TMC. She has won the TAAI Best Paper Award and the IEEE GLOBECOM Best Paper Candidate. She has won the ACM SIGKDD Student Scholarship for ACM's Celebration of 50 Years of the Turing Award. Her KDD paper was featured by MIT Technology Review, ACM TechNews, Phys.org, Popsi.com, Inquisitr.com.

## WORK EXPERIENCE

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<b>Assistant Professor</b>	2024 - now
<i>Department of Computer Science and Information Engineering</i>	
<i>National Central University (NCU), Taoyuan, Taiwan</i>	

## EDUCATION

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<b>The Pennsylvania State University (PSU), State College, PA, USA</b>	2014 - 2024
<i>Ph.D., Computer Science and Engineering (GPA: 3.84/4.00)</i>	
<b>National Taiwan University (NTU), Taipei, Taiwan</b>	2009 - 2011
<i>M.S., Computer Science and Information Engineering (GPA: 4.00/4.00)</i>	
<b>National Tsing Hua University (NTHU), Hsinchu, Taiwan</b>	2005 - 2009
<i>B.S., Computer Science (GPA: 3.81/4.00)</i>	

## RESEARCH INTERESTS

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- Graph Optimization Algorithms
- Machine Learning on Graphs
- Social Network Analysis

## PUBLICATIONS

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- **H.-J. Hung**, G.-S. Lee, C.-H. Lu, C.-Y. Shen, and D.-N. Yang. Risk-aware Skill-coverage Hybrid Workforce Configuration on Social Networks. To appear in PAKDD 2026, Hong Kong, China. (Research Track Paper with Oral Presentation, Acceptance Rate = 25%, ICORE<sup>[1]</sup> Ranking B)
- **H.-J. Hung**, F.Y. Kuo, M.-Y. Chang, and C.-Y. Shen. Detection of Short-Form Video Addiction through Diffusion-based Graph Augmentation. To appear in ICC 2026, Glasgow, Scotland, United Kingdom.
- S.-P. Tseng, L.-Y. Yeh, **H.-J. Hung** and C.-Y. Shen. Federated Watermarking of Deep Neural Networks with Distributed Verification. To appear in WSDM 2026, Boise, ID, USA (Research Track Full Paper, Acceptance Rate = 100/613 = 16.3%, Top Conference in Data Mining, ICORE

Ranking A)

- C.-H. Chang, **H.-J. Hung**, C.-H. Lu, C.-Y. Shen. Enhancing Contrastive Link Prediction with Edge Balancing Augmentation. In CIKM 2025, Seoul, Korea. (Research Track Full Paper, Acceptance Rate =  $443/1627 = 27.2\%$ , Top Conference in Data Mining, ICORE Ranking A)
- **H.-J. Hung**, C.-H. Lu, Y.-Y. Huang, M.-Y. Chang, Y.-C. Ho, C.-Y. Shen. Efficient Detection of k-Plex Structures in Large Graphs Through Constraint Learning. IEEE Transactions on Computational Social Systems (TCSS), 2025. (Q1, Impact Factor = 4.9, Emerging Journal)
- **H.-J. Hung**, W.-C. Lee, C.-Y. Shen, F. He, Z. Lei. Leveraging Transfer Learning for Enhancing Graph Optimization Problem Solving. In PAKDD 2024, Taipei, Taiwan. (Research Track Paper with Oral Presentation, Acceptance Rate =  $133/720 = 18.5\%$ , ICORE Ranking B)
- **H.-J. Hung**, W.-C. Lee, T.-Y. Fu, C.-Y. Shen, Z. Lei. Learning to Solve Combinatorial Optimization Problems on Graphs with State-Aware Multi-Relation Aggregation. In ACM/SIGAPP Symposium on Applied Computing (SAC) 2024, Ávila, Spain.
- **H.-J. Hung**, W.-C. Lee, D.-N. Yang, C.-Y. Shen, Z. Lei, S.-M. Chow. Efficient Algorithms towards Network Intervention. In The Web Conference (WWW) 2020, Taipei, Taiwan. (Research Track Full Paper, Acceptance Rate =  $217/1129 = 19.2\%$ , Top Conference in Web, ICORE Ranking A\*, CCF<sup>[2]</sup> Ranking A)
- **H.-J. Hung**, T.-Y. Ho, S.-Y. Lee, C.-Y. Yang, and D.-N. Yang. Relay Selection for Heterogeneous Cellular Networks with Renewable Green Energy Sources. IEEE Transactions on Mobile Computing (TMC), 2018. (Q1, Impact Factor = 9.2, Top Journal in Mobile Computing, CCF Ranking A)
- K.-H. Tsai, Y.-S. Wang, H.-Y. Kuo, J.-Y. Tsai, C.-C. Chang, **H.-J. Hung**, H.-H. Shuai. Multi-source Learning for Sales Prediction. In TAAI 2017, Taipei, Taiwan. (*Best Paper Award*)
- **H.-J. Hung**, H.-H. Shuai, D.-N. Yang, L.-H. Huang, W.-C. Lee, J. Pei, and M.-S. Chen. When Social Influence Meets Item Inference. In KDD 2016, San Francisco, CA, USA. (Research Track Full Paper with Oral Presentation, Acceptance Rate =  $70/784 = 8.9\%$ , Top Conference in Data Mining, ICORE Ranking A\*, CCF Ranking A)
- **H.-J. Hung**, D.-N. Yang, and W.-C. Lee. Routing and Scheduling of Social Influence Diffusion in Online Social Networks. In ICDCS 2016, Nara, Japan. (Research Track Full Paper, Acceptance Rate =  $68/386 = 17.6\%$ , Top Conference in Distributed Computing Systems, ICORE Ranking A)
- **H.-J. Hung**, D.-N. Yang, and W.-C. Lee. Social Influence-Aware Reverse Nearest Neighbor Search. ACM Transactions on Spatial Algorithms and Systems (TSAS), 2016.
- L.-H. Huang, **H.-J. Hung**, C.-C. Lin, and D.-N. Yang. Scalable and Bandwidth-Efficient Multicast for Software-Defined Networks. In GLOBECOM 2014, Austin, TX, USA. (Research Track Full Paper, Acceptance Rate =  $859/2171 = 39\%$ , ICORE Ranking B, *Best Paper Candidate (Best 50 Papers)*)
- **H.-J. Hung**, D.-N. Yang, and W.-C. Lee. Social Influence-Aware Reverse Nearest Neighbor Search. In DSAA 2014, Shanghai, China. (Oral Long Presentation, Acceptance Rate =  $10.4\%$ , ICORE Ranking B)
- D.-N. Yang, **H.-J. Hung**, W.-C. Lee, and W. Chen. Maximizing Acceptance Probability for Active Friending in Online Social Networks. In KDD 2013, Chicago, IL, USA. (Research Track Full Paper, Acceptance Rate =  $126/726 = 17.4\%$ , Top Conference in Data Mining, ICORE

Ranking A\*, CCF Ranking A, *Featured by MIT Technology Review, ACM TechNews, Phys.org, Popsi.com, Inquisitr.com*)

- G. Ferenc, W.-C. Lee, **H.-J. Hung**, and D.-N. Yang. Spatial Search for K Diverse-near Neighbors. In CIKM 2013, San Francisco, CA, USA (Research Track Full Paper, Acceptance Rate =  $143/848 = 16.9\%$ , Top Conference in Data Mining, ICORE Ranking A)
- D.-N. Yang, W.-C. Lee, N.-H. Chia, M. Ye, and **H.-J. Hung**. On Bundle Configuration for Viral Marketing in Social Networks. In CIKM 2012, Maui, HI, USA. (Research Track Short Paper, Acceptance Rate =  $27.8\%$ , Top Conference in Data Mining, ICORE Ranking A)

(underline: Ph.D. Advisor)

## HONORS

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- 國立中央大學新聘卓越人才獎勵, 2025
- TAAI Best Paper Award, 2017
- GLOBECOM Best Paper Candidate (Best 50 Papers), 2014
- ACM SIGKDD Student Scholarship for ACM's Celebration of 50 Years of the Turing Award, 2017
- Student Travel Awards: KDD, ICDCS, WWW, SIGAPP and PAKDD, 2016-2024
- Excellent Teaching Assistant Award, NTU, 2010
- Scholarship for Excellent EECS Students (Junior), NTHU, 2008
- Scholarship for Excellent EECS Students (Freshman), NTHU, 2005
- Fifth Place, ACM-ICPC Asia Region Singapore Site, 2007
- Second Place, National Collegiate Programming Contest, 2007
- Third Place, Tsinghua-HKUST Programming Contest, 2007
- Fourth Place, National Problem Solving Contest, 2004

## ACADEMIC SERVICES

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- AI Forum 2025 - Local Arrangement Chair
- 《國際人工智慧奧林匹亞競賽之國家代表隊選拔、培訓暨參賽計畫》計畫主持人 (in progress)
- PC Member: PAKDD, GLOBECOM, AAAI AISI, CIKM Resource Track, WWW
- Reviewer: TIST, TON, TSC, TPDS, DKE, JISE

## PROJECTS

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- 國科會《以機器學習方式解決圖論最佳化問題之泛化模型開發與實作》計畫主持人 (2025/04/01-2027/03/31、核定總額1,906,000元)
- 台灣積體電路製造股份有限公司產學合作計畫《Generalizable and Cost-Effective AI for Industrial Anomaly Detection of Known and Unknown Defects》共同主持人 (2026/03/01-2027/02/28、核定總額1,200,000元)

- 國科會《科普活動：人工智慧與智慧農業於冷凍乾燥技術的教育實踐》共同主持人 (2025/08/01-2026/07/31、核定總額530,000元)
- 教育部大專校院STEM領域及女性研發人才培育計畫《STELLA：以 Agentic AI 加速女性研發人才之跨域培育計畫》共同主持人 (2025/08/01-2026/07/31、核定總額2,500,000元)
- 教育部人工智慧技術及應用領域系列課程計畫《生成式人工智慧在生物醫學的應用》共同主持人 (2024/09/01-2026/07/31、核定總額1,760,000元)
- 國立中央大學新進教研人員教學與研究經費補助 (2025/01/01-2025/12/19、核定總額200,000元)

## PROGRAMMING SKILLS

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C/C++, Python, R, Matlab, Java, Shell script

## OFFERED & POTENTIAL COURSES

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Graph mining and optimization\*, privacy-preserving data analysis\*, compilers\*, algorithms, data structures, databases, data mining, information retrieval, programming. (\*: offered)

### Notes:

- [1] The ICORE rankings (previously CORE) are maintained by the Computing Research and Education Association of Australasia and others. See <https://www.core.edu.au/icore-portal>. In this ranking, A\*, A, and B correspond to the top 7.64%, 14.9%, and 28.15% of the 785 ranked venues, respectively.
- [2] The CCF rankings are maintained by China Computer Federation (中國計算機學會). See [https://www.ccf.org.cn/Academic\\_Evaluation/By\\_category/](https://www.ccf.org.cn/Academic_Evaluation/By_category/).