

Yun-Nung (Vivian) Chen

PROFESSOR · NATIONAL TAIWAN UNIVERSITY

Taipei, Taiwan

✉ y.v.chen@ieee.org 🏠 vivianchen.idv.tw 🖥️ MiuLab

Education

Carnegie Mellon University (CMU)

M.S. & PH.D. IN COMPUTER SCIENCE – LANGUAGE AND INFORMATION TECHNOLOGIES

- GPA: 3.92/4.0; Received Graduate Research Fellowships.

Pittsburgh, PA

2011 - 2015

National Taiwan University (NTU)

B.S. & M.S. IN COMPUTER SCIENCE AND INFORMATION ENGINEERING

- GPA: 4.0/4.0; Graduated with College Honors and received five Presidential Awards.

Taipei, Taiwan

2005 - 2011

Honors & Awards

RESEARCH

2023	K. T. Li Young Researcher Award , Institute of Information & Computing Machinery	Taiwan
2021	Taiwan Outstanding Women in Science Award , LOREAL & WCS Education Foundation	Taiwan
2021	Ta-You Wu Memorial Award , Ministry of Science and Technology	Taiwan
2020	AWS Machine Learning Research Awards , Amazon AWS	New York, NY
2019	FAOS Young Scholar Innovation Award , Foundation for the Advancement of Outstanding Scholarship	Taiwan
2019	NTU EECS Academic Contribution Award , NTU EECS	Taiwan
2019	Irving T. Ho Outstanding Young Scholar Award , Irving T. Ho Memorial Foundation	Taiwan
2018	MOST Young Scholar Fellowship , Ministry of Science and Technology	Taiwan
2017	NVIDIA GTC 2017 Best Scientific Research Award , NVIDIA	San Jose, CA
2017	Google Faculty Research Awards 2016 , Google Research	Mountain View, CA
2013	Best Student Paper Award , IEEE ASRU 2013 [1/ 170; < 0.6%]	Olomouc, Czech
2013	Best Poster Award , CMU LTI SRS 2013	Pittsburgh, PA
2012	Best Student Paper Shortlist , ISCA INTERSPEECH 2012 [10/ 1300; < 0.8%]	Portland, OR
2010	Best Student Paper Award , IEEE SLT 2010 [2/ 150; < 2%]	Berkeley, CA
2011	ACLCLP Thesis Award , ACLCLP	Taipei, Taiwan

ACADEMIC

2011	Phi Tau Phi Award , Member of the Phi Tau Phi Scholastic Honor Society	Taipei, Taiwan
2010	Excellent Teaching Assistant Award , NTU CSIE Dept.	Taipei, Taiwan
2006–2009	Presidential Award , NTU CSIE Dept. (Spring'07, Fall'07, Spring'08, Fall'08, Spring'09)	Taipei, Taiwan
2008	Connected Life Special Prize , Yahoo! 2008 Open Hack Day [1/42; <0.1%]	Taipei, Taiwan

Experience

National Taiwan University, Dept. Computer Science & Information Engineering

PROFESSOR / LEAD MACHINE INTELLIGENCE & UNDERSTANDING LABORATORY

- LLM personalization: [17]
- Culture-aware LLM: [12]
- Low-resource and efficiency: [11], [16]
- Factual correctness: [13]
- Retrieval: [14]

Taipei, Taiwan

Aug. 2024 - Present

National Taiwan University, Dept. Computer Science & Information Engineering

Taipei, Taiwan

ASSOCIATE PROFESSOR / LEAD MACHINE INTELLIGENCE & UNDERSTANDING LABORATORY

Aug. 2020 - Jul. 2024

- Agent planning: [20]
- Dialogue modeling: [10], [1], [19], [21], [22], [3], [24], [25], [27], [36]
- Language understanding and generation: [12], [2], [23], [35]
- Multilinguality & multimodality: [15], [18]
- Factual correctness: [4]
- Explainability: [28], [34]
- Transfer learning: [29], [32]
- Embedding analysis: [38]
- Medical Applications: [26], [30], [7]

National Taiwan University, Dept. Computer Science & Information Engineering

Taipei, Taiwan

ASSISTANT PROFESSOR / LEAD MACHINE INTELLIGENCE & UNDERSTANDING LABORATORY

Aug. 2016 - Jul. 2020

- Dialogue modeling: [5], [6], [8], [43], [44], [46], [54]–[56], [61]
- Language understanding: [33], [37], [41], [42], [50]
- Dialogue policy learning: [51], [52], [59]
- Language generation: [42], [49], [53], [60]
- Question answering: [31], [40], [47]
- Interpretability: [39], [45]
- Multi-sense word representation: [48], [58]

Microsoft Research, Deep Learning Technology Center

Redmond, U.S.A.

POSTDOCTORAL RESEARCHER

Feb. 2016 - Aug. 2016

- Deep conversation understanding: [63], [64], [66]
- Deep dialogue modeling: [51], [57]

Carnegie Mellon University, School of Computer Science

Pittsburgh, U.S.A.

GRADUATE RESEARCH ASSISTANT

Aug. 2011 - Jan. 2016

- Spoken language understanding: [65], [67], [69]–[72], [74], [76]
- Multi-party speech summarization: [75], [79], [80]
- Brain-enabled multimodal speech application: [77]

Microsoft Research, Speech & Dialog Research Group

Mountain View, U.S.A.

RESEARCH INTERN

Summer 2014 & Summer 2015

- Intent modeling & understanding: [62], [68]
- Unsupervised relation detection: [73]

National Taiwan University, Digital Speech Processing Laboratory

Taipei, Taiwan

GRADUATE RESEARCH ASSISTANT

Jul. 2009 - Aug. 2011

- Key term extraction: [9], [78], [83]
- Speech summarization: [82]
- Spoken term detection: [81]

Selected Publications

Journal Articles

- [1] C. Gunasekara, S. Kim, L. F. D'Haro, A. Rastogi, Y.-N. Chen, M. Eric, B. Hedayatnia, K. Gopalakrishnan, Y. Liu, C.-W. Huang, *et al.*, "Overview of the ninth dialog system technology challenge: DSTC9," *IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP)*, 2024.
- [2] S.-Y. Su, Y.-S. Chuang, and Y.-N. Chen, "Joint dual learning with mutual information maximization for natural language understanding and generation in dialogues," *IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP)*, vol. 32, pp. 2445–2452, 2024.
- [3] K. Yoshino, Y.-N. Chen, P. Crook, S. Kottur, J. Li, B. Hedayatnia, S. Moon, Z. Fei, Z. Li, J. Zhang, *et al.*, "Overview of the tenth dialog system technology challenge: DSTC10," *IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP)*, vol. 32, pp. 765–778, 2023.
- [4] Y.-P. Chen, Y.-Y. Chen, K.-C. Yang, F. Lai, C.-H. Huang, Y.-N. Chen, Y.-C. Tu, *et al.*, "The prevalence and impact of fake news on COVID-19 vaccination in taiwan: Retrospective study of digital media," *Journal of Medical Internet Research*, vol. 24, no. 4, e36830, 2022.
- [5] T.-R. Chiang, C.-W. Huang, S.-Y. Su, and Y.-N. Chen, "Learning multi-level information for dialogue response selection by highway recurrent transformer," *Computer Speech & Language (CSL)*, p. 101 073, 2020.

- [6] C.-W. Huang, T.-R. Chiang, S.-Y. Su, and Y.-N. Chen, "RAP-Net: Recurrent attention pooling networks for dialogue response selection," *Computer Speech & Language (CSL)*, p. 101 079, 2020.
- [7] S.-m. Wang, Y.-h. Chang, L.-c. Kuo, F. Lai, Y.-n. Chen, F.-y. Yu, C.-w. Chen, Z.-w. Li, and Y. Chung, "Using deep learning for automatic icd-10 classification from free-text data," *European Journal of Biomedical Informatics*, vol. 16, no. 1, 2020.
- [8] H.-T. Ye, K.-L. Lo, S.-Y. Su, and Y.-N. Chen, "Knowledge-grounded response generation with deep attentional latent-variable model," *Computer Speech & Language (CSL)*, p. 101 069, 2020.
- [9] H.-Y. Lee, S.-R. Shiang, C.-F. Yeh, Y.-N. Chen, Y. Huang, S.-Y. Kong, and L. shan Lee, "Spoken knowledge organization by semantic structuring and a prototype course lecture system for personalized learning," *IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP)*, vol. 22, no. 5, pp. 883–898, 2014.

Peer-Reviewed Conference Papers

- [10] W.-Y. Chang and Y.-N. Chen, "Injecting salesperson's dialogue strategies in large language models with chain-of-thought reasoning," in *Proc. of Findings of the Association for Computational Linguistics ACL 2024 (Findings of ACL)*, 2024, pp. 3798–3812.
- [11] P.-H. Chen and Y.-N. Chen, "Efficient unseen language adaptation for multilingual pre-trained language models," in *Proc. of the 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2024.
- [12] P.-H. Chen, S. Cheng, W.-L. Chen, Y.-T. Lin, and Y.-N. Chen, "Measuring taiwanese mandarin language understanding," in *Proc. of Conference on Language Modeling (COLM)*, 2024.
- [13] C.-W. Huang and Y.-N. Chen, "FactAlign: Long-form factuality alignment of large language models," in *Proc. of Findings of the Association for Computational Linguistics: EMNLP 2024 (Findings of EMNLP)*, 2024.
- [14] C.-W. Huang and Y.-N. Chen, "PairDistill: Pairwise relevance distillation for dense retrieval," in *Proc. of the 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2024.
- [15] C.-W. Huang, C.-A. Li, T.-Y. Hsu, C.-Y. Hsu, and Y.-N. Chen, "Unsupervised multilingual dense retrieval via generative pseudo labeling," in *Proc. of Findings of the Association for Computational Linguistics: EACL 2024*, 2024, pp. 736–746.
- [16] T.-H. Lin, C.-A. Li, H. yi Lee, and Y.-N. Chen, "DogeRM: Equipping reward models with domain knowledge through model merging," in *Proc. of the 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2024.
- [17] Y.-M. Tseng, Y.-C. Huang, T.-Y. Hsiao, W.-L. Chen, C.-W. Huang, Y. Meng, and Y.-N. Chen, "Two tales of persona in llms: A survey of role-playing and personalization," in *Proc. of Findings of the Association for Computational Linguistics: EMNLP 2024 (Findings of EMNLP)*, 2024.
- [18] T.-Y. Hsu, C.-A. Li, C.-W. Huang, and Y.-N. Chen, "Visually-enhanced phrase understanding," in *Proc. of Findings of the Association for Computational Linguistics: ACL 2023*, 2023, pp. 5879–5888.
- [19] C.-W. Huang, C.-Y. Hsu, T.-Y. Hsu, C.-A. Li, and Y.-N. Chen, "CONVERSER: Few-shot conversational dense retrieval with synthetic data generation," in *Proc. of the 24th Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL)*, 2023, pp. 381–387.
- [20] H.-C. Kuo and Y.-N. Chen, "Zero-shot prompting for implicit intent prediction and recommendation with commonsense reasoning," in *Proc. of Findings of the Association for Computational Linguistics: ACL 2023 (Findings of ACL)*, 2023, pp. 249–258.
- [21] Y.-T. Lin and Y.-N. Chen, "LLM-Eval: Unified multi-dimensional automatic evaluation for open-domain conversations with large language models," in *Proc. of the 5th Workshop on NLP for Conversational AI (NLP4ConvAI 2023)*, 2023, pp. 47–58.
- [22] Z.-S. Xu and Y.-N. Chen, "Zero-shot dialogue relation extraction by relating explainable triggers and relation names," in *Proc. of the 5th Workshop on NLP for Conversational AI (NLP4ConvAI 2023)*, 2023, pp. 123–128.
- [23] Y.-H. Chang and Y.-N. Chen, "Contrastive learning for improving asr robustness in spoken language understanding," in *Proc. of The 23rd Annual Meeting of the International Speech Communication Association (INTERSPEECH)*, 2022, pp. 3458–3462.
- [24] S. Chiu, M. Li, Y.-T. Lin, and Y.-N. Chen, "SalesBot: Transitioning from chat to task-oriented dialogues," in *Proc. of the 60th Annual Meeting of the Association for Computational Linguistics (ACL)*, 2022.
- [25] H.-C. Fang, K.-H. Hung, C.-W. Huang, and Y.-N. Chen, "Open-domain conversational question answering with historical answers," in *Proc. of Findings of AACL-IJCNLP 2022*, 2022, pp. 319–326.
- [26] C.-W. Huang, S.-C. Tsai, and Y.-N. Chen, "PLM-ICD: Automatic icd coding with pretrained language models," in *Proc. of the 4th Clinical Natural Language Processing Workshop (ClinicalNLP)*, 2022.
- [27] C.-M. Lai, M.-H. Hsu, C.-W. Huang, and Y.-N. Chen, "Controllable user dialogue act augmentation for dialogue state tracking," in *Proc. of the SIGDIAL 2022 Conference (SIGDIAL)*, 2022, pp. 53–61.
- [28] P.-W. Lin, S.-Y. Su, and Y.-N. Chen, "TREND: Trigger-enhanced relation-extraction network for dialogues," in *Proc. of the SIGDIAL 2022 Conference (SIGDIAL)*, 2022, pp. 623–629.
- [29] P.-N. Kung, S.-S. Yin, Y.-C. Chen, T.-H. Yang, and Y.-N. Chen, "Efficient multi-task auxiliary learning: Selecting auxiliary data by feature similarity," in *Proc. of the 2021 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2021, pp. 416–428.
- [30] S.-C. Tsai, C.-W. Huang, and Y.-N. Chen, "Modeling diagnostic label correlation for automatic icd coding," in *Proc. of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*, 2021, pp. 4043–4052.
- [31] T.-R. Chiang, H.-T. Ye, and Y.-N. Chen, "An empirical study of content understanding in conversational question answering," in *Proc. of Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI)*, Feb. 2020.
- [32] Y.-S. Chuang, S.-Y. Su, and Y.-N. Chen, "Lifelong language knowledge distillation," in *Proc. of 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, ACL, Nov. 2020.
- [33] C.-W. Huang and Y.-N. Chen, "Learning spoken language representations with neural lattice language modeling," in *Proc. of the 58th Annual Meeting of the Association for Computational Linguistics (ACL)*, ACL, Jul. 2020.
- [34] P.-N. Kung, T. Yang, Y. Chen, S.-S. Yin, and Y.-N. Chen, "Zero-shot rationalization by multi-task transfer learning from question answering," in *Proc. of Findings of EMNLP*, ACL, Nov. 2020.
- [35] C.-H. Lin, S.-R. Wu, H. yi Lee, and Y.-N. Chen, "Taylorgan: Neighbor-augmented policy update towards sample-efficient natural language generation," in *Proc. of 34th Conference on Neural Information Processing Systems (NeurIPS)*, Dec. 2020.
- [36] S.-Y. Su, Y.-S. Chuang, and Y.-N. Chen, "Dual inference for improving language understanding and generation," in *Proc. of Findings of EMNLP*, ACL, Nov. 2020.
- [37] S.-Y. Su, C.-W. Huang, and Y.-N. Chen, "Towards unsupervised language understanding and generation by joint dual learning," in *Proc. of the 58th Annual Meeting of the Association for Computational Linguistics (ACL)*, ACL, Jul. 2020.
- [38] Y.-A. Wang and Y.-N. Chen, "What do position embeddings learn? an empirical study of pre-trained language model positional encoding," in *Proc. of 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, ACL, Nov. 2020.

- [39] T.-Y. Chang and Y.-N. Chen, "What does this word mean? explaining contextualized embeddings with natural language definition," in *Proc. of The 2019 Conference on Empirical Methods in Natural Language Processing and 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*, Nov. 2019.
- [40] T.-R. Chiang and Y.-N. Chen, "Semantically-aligned equation generation for solving and reasoning math word problems," in *Proc. of 2019 Conference of the North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL-HLT)*, ACL, Jun. 2019, 2656–2668.
- [41] C.-W. Huang and Y.-N. Chen, "Adapting pretrained transformer to lattices for spoken language understanding," in *Proc. of 2019 IEEE Workshop on Automatic Speech Recognition and Understanding (ASRU)*, Dec. 2019.
- [42] S.-Y. Su, C.-W. Huang, and Y.-N. Chen, "Dual supervised learning for natural language understanding and generation," in *Proc. of the 57th Annual Meeting of the Association for Computational Linguistics (ACL)*, ACL, Jul. 2019.
- [43] S.-Y. Su, P.-C. Yuan, and Y.-N. Chen, "Dynamically context-sensitive time-decay attention for dialogue modeling," in *Proc. of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, IEEE, May 2019, pp. 7200–7204.
- [44] Y.-L. Tuan, Y.-N. Chen, and H.-Y. Lee, "DyKgChat: Benchmarking dialogue generation grounding on dynamic knowledge graphs," in *Proc. of The 2019 Conference on Empirical Methods in Natural Language Processing and 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*, Nov. 2019.
- [45] Y. Wang, H.-Y. Lee, and Y.-N. Chen, "Tree transformer: Integrating tree structures into self-attention," in *Proc. of The 2019 Conference on Empirical Methods in Natural Language Processing and 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*, Nov. 2019.
- [46] Y.-A. Wang and Y.-N. Chen, "Dialogue environments are different from games: Investigating variants of deep q-networks for dialogue policy," in *Proc. of 2019 IEEE Workshop on Automatic Speech Recognition and Understanding (ASRU)*, Dec. 2019.
- [47] Y.-T. Yeh and Y.-N. Chen, "QAInfomax: Learning robust question answering system by mutual information maximization," in *Proc. of The 2019 Conference on Empirical Methods in Natural Language Processing and 9th International Joint Conference on Natural Language Processing (EMNLP-IJCNLP)*, Nov. 2019.
- [48] T.-C. Chi and Y.-N. Chen, "CLUSE: Cross-lingual undersupervised sense embeddings," in *Proc. of The 2018 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Oct. 2018.
- [49] C.-W. Goo and Y.-N. Chen, "Abstractive dialogue summarization with sentence-gated modeling optimized by dialogue acts," in *Proc. of 2018 IEEE Spoken Language Technology Workshop (SLT)*, IEEE, Dec. 2018, pp. 735–742.
- [50] C.-W. Goo, G. Gao, Y.-K. Hsu, C.-L. Huo, T.-C. Chen, K.-W. Hsu, and Y.-N. Chen, "Slot-gated modeling for joint slot filling and intent prediction," in *Proc. of 2018 Conference of the North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL-HLT)*, Jun. 2018.
- [51] B. Peng, X. Li, J. Gao, J. Liu, Y.-N. Chen, and K.-F. Wong, "Adversarial advantage actor-critic model for task-completion dialogue policy learning," in *Proc. of The 43rd IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Apr. 2018.
- [52] S.-Y. Su, X. Li, J. Gao, J. Liu, and Y.-N. Chen, "Discriminative deep dyna-q: Robust planning for dialogue policy learning," in *Proc. of The 2018 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Oct. 2018.
- [53] S.-Y. Su, K.-L. Lo, Y.-T. Yeh, and Y.-N. Chen, "Natural language generation by hierarchical decoding with linguistic patterns," in *Proc. of 2018 Conference of the North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL-HLT)*, Jun. 2018.
- [54] S.-Y. Su, P.-C. Yuan, and Y.-N. Chen, "How time matters: Learning time-decay attention for contextual spoken language understanding in dialogues," in *Proc. of 2018 Conference of the North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL-HLT)*, Jun. 2018.
- [55] P.-C. Chen, T.-C. Chi, S.-Y. Su, and Y.-N. Chen, "Dynamic time-aware attention to speaker roles and contexts for spoken language understanding," in *Proc. of 2017 IEEE Workshop on Automatic Speech Recognition and Understanding (ASRU)*, Dec. 2017.
- [56] T.-C. Chi, P.-C. Chen, S.-Y. Su, and Y.-N. Chen, "Speaker role contextual modeling for language understanding and dialogue policy learning," in *Proc. of The 8th International Joint Conference on Natural Language Processing (IJCNLP)*, Nov. 2017.
- [57] B. Dhingra, L. Li, X. Li, J. Gao, Y.-N. Chen, F. Ahmed, and L. Deng, "Toward end-to-end reinforcement learning of dialogue agents for information access," in *Proc. of The 55th Annual Meeting of the Association for Computational Linguistics (ACL)*, Jul. 2017.
- [58] G.-H. Lee and Y.-N. Chen, "MUSE: Modularizing unsupervised sense embeddings," in *Proc. of The 2017 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, Sep. 2017, pp. 327–337.
- [59] X. Li, Y.-N. Chen, L. Li, J. Gao, and A. Celikyilmaz, "End-to-end task-completion neural dialogue systems," in *Proc. of The 8th International Joint Conference on Natural Language Processing (IJCNLP)*, Nov. 2017.
- [60] B. R. Lu, F. Shyu, Y.-N. Chen, H.-Y. Lee, and L.-S. Lee, "Order-preserving abstractive summarization for spoken content based on connectionist temporal classification," in *Proc. of 18th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, ISCA, Aug. 2017.
- [61] X. Yang, Y.-N. Chen, D. Hakkani-Tur, P. Crook, X. Li, J. Gao, and L. Deng, "End-to-end joint learning of natural language understanding and dialogue manager," in *Proc. of The 42nd IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, IEEE, Mar. 2017.
- [62] Y.-N. Chen, D. Hakkani-Tür, and X. He, "Zero-shot learning of intent embeddings for expansion by convolutional deep structured semantic models," in *Proc. of The 41st IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, IEEE, Mar. 2016.
- [63] Y.-N. Chen, D. Hakkani-Tür, G. Tur, J. Gao, and D. Li, "End-to-end memory networks with knowledge carryover for multi-turn spoken language understanding," in *Proc. of The 17th Annual Meeting of the International Speech Communication Association (INTERSPEECH)*, Sep. 2016.
- [64] Y.-N. Chen, D. Hakkani-Tür, G. Tur, A. Celikyilmaz, J. Gao, and L. Deng, "Syntax or semantics? knowledge-guided joint semantic frame parsing," in *Proc. of 2016 IEEE Spoken Language Technology Workshop (SLT)*, IEEE, Dec. 2016.
- [65] Y.-N. Chen, M. Sun, A. I. Rudnicky, and A. Gershman, "Unsupervised user intent modeling by feature-enriched matrix factorization," in *Proc. of The 41st IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, IEEE, Mar. 2016.
- [66] D. Hakkani-Tur, G. Tur, A. Celikyilmaz, Y.-N. Chen, J. Gao, L. Deng, and Y.-Y. Wang, "Multi-domain joint semantic frame parsing using bi-directional RNN-LSTM," in *Proc. of 17th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, ISCA, Sep. 2016.
- [67] M. Sun, Y.-N. Chen, and A. I. Rudnicky, "An intelligent assistant for high-level task understanding," in *Proc. of the 21st Annual Meeting of the Intelligent Interfaces Community (IUI)*, ACM, Mar. 2016.
- [68] Y.-N. Chen, D. Hakkani-Tür, and X. He, "Detecting actionable items in meetings by convolutional deep structured semantic models," in *Proc. of 2015 IEEE Workshop on Automatic Speech Recognition and Understanding (ASRU)*, IEEE, Dec. 2015, pp. 375–382.

- [69] Y.-N. Chen, M. Sun, A. I. Rudnicky, and A. Gershman, "Leveraging behavioral patterns of mobile applications for personalized spoken language understanding," in *Proc. of The 17th ACM International Conference on Multimodal Interaction (ICMI)*, ACM, Nov. 2015, pp. 83–86.
- [70] Y.-N. Chen, W. Y. Wang, A. Gershman, and A. I. Rudnicky, "Matrix factorization with knowledge graph propagation for unsupervised spoken language understanding," in *Proc. of the 53rd Annual Meeting of the Association for Computational Linguistics and The 7th International Joint Conference on Natural Language Processing of the Asian Federation of Natural Language Processing (ACL-IJCNLP)*, ACL, Jul. 2015, pp. 483–494.
- [71] Y.-N. Chen, W. Y. Wang, and A. I. Rudnicky, "Jointly modeling inter-slot relations by random walk on knowledge graphs for unsupervised spoken language understanding," in *Proc. of 2015 Conference of the North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL-HLT)*, ACL, May 2015, pp. 619–629.
- [72] Y.-N. Chen, W. Y. Wang, and A. I. Rudnicky, "Learning semantic hierarchy with distributional representations for unsupervised spoken language understanding," in *Proc. of 16th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, ISCA, Sep. 2015, pp. 1869–1873.
- [73] Y.-N. Chen, D. Hakkani-Tür, and G. Tur, "Deriving local relational surface forms from dependency-based entity embeddings for unsupervised spoken language understanding," in *Proc. of 2014 IEEE Spoken Language Technology Workshop (SLT)*, IEEE, Dec. 2014, pp. 242–247.
- [74] Y.-N. Chen and A. I. Rudnicky, "Dynamically supporting unexplored domains in conversational interactions by enriching semantics with neural word embeddings," in *Proc. of 2014 IEEE Spoken Language Technology Workshop (SLT)*, IEEE, Dec. 2014, pp. 590–595.
- [75] Y.-N. Chen and F. Metze, "Multi-layer mutually reinforced random walk with hidden parameters for improved multi-party meeting summarization," in *Proc. of The 14th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, ISCA, Aug. 2013, pp. 485–489.
- [76] Y.-N. Chen, W. Y. Wang, and A. I. Rudnicky, "Unsupervised induction and filling of semantic slots for spoken dialogue systems using frame-semantic parsing," in *Proc. of 2013 IEEE Workshop on Automatic Speech Recognition and Understanding (ASRU)*, IEEE, Dec. 2013, pp. 120–125.
- [77] Y.-N. Chen, K.-M. Chang, and J. Mostow, "Towards using EEG to improve asr accuracy," in *Proc. of The 2012 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*, ACL, Jun. 2012, pp. 382–385.
- [78] Y.-N. Chen, Y. Huang, H.-Y. Lee, and L.-S. Lee, "Unsupervised two-stage keyword extraction from spoken documents by topic coherence and support vector machine," in *Proc. of The 37th International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, IEEE, Mar. 2012, pp. 5041–5044.
- [79] Y.-N. Chen and F. Metze, "Intra-speaker topic modeling for improved multi-party meeting summarization with integrated random walk," in *Proc. of The 2012 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*, ACL, Jun. 2012, pp. 377–381.
- [80] Y.-N. Chen and F. Metze, "Two-layer mutually reinforced random walk for improved multi-party meeting summarization," in *Proc. of The 4th IEEE Workshop on Spoken Language Technology (SLT)*, IEEE, Dec. 2012, pp. 461–466.
- [81] Y.-N. Chen, C.-P. Chen, H.-Y. Lee, C.-A. Chan, and L.-S. Lee, "Improved spoken term detection with graph-based re-ranking in feature space," in *Proc. of The 36th International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, IEEE, May 2011, pp. 5644–5647.
- [82] Y.-N. Chen, Y. Huang, C.-F. Yeh, and L.-S. Lee, "Spoken lecture summarization by random walk over a graph constructed with automatically extracted key terms," in *Proc. of The 12th Annual Conference of the International Speech Communication Association (INTERSPEECH)*, ISCA, Aug. 2011, pp. 933–936.
- [83] Y.-N. Chen, Y. Huang, S.-Y. Kong, and L.-S. Lee, "Automatic key term extraction from spoken course lectures using branching entropy and prosodic/semantic features," in *Proc. of The 3rd IEEE Workshop on Spoken Language Technology (SLT)*, IEEE, Dec. 2010, pp. 265–270.

Professional Talks

CONFERENCE KEYNOTE SPEECH

Sep 2022 **Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL 2022)**, *Edinburgh, UK*
 Robustness, Scalability, and Practicality of Conversational AI

CONFERENCE TUTORIALS

Dec 2020 **NeurIPS, Tutorial Speaker**, Deeper Conversational AI *Virtual*

Oct 2019 **ACML, Tutorial Speaker**, Deep Learning for Conversational AI *Nagoya, Japan*

Mar 2019 **GTC, Tutorial Speaker**, Towards Open-Domain Conversational AI *San Jose, CA*

Aug 2018 **COLING, Tutorial Speaker**, Deep Learning for Dialogue Systems *Santa Fe, NM*

Mar 2018 **GTC, Tutorial Speaker**, Deep Learning for Dialogue Systems *San Jose, CA*

Dec 2017 **TAAL, Tutorial Speaker**, Deep Learning for Open-Domain Dialogues *Taipei, Taiwan*

Nov 2017 **IJCNLP, Tutorial Speaker**, Open-Domain Neural Dialogue Systems *Taipei, Taiwan*

Aug 2017 **Interspeech, Tutorial Speaker**, Deep Learning for Dialogue Systems (150 registered attendees) *Stockholm, Sweden*

Jul 2017 **ACL, Tutorial Speaker**, Deep Learning for Dialogue Systems (250 registered attendees) *Vancouver, Canada*

Mar 2017 **ICASSP, Tutorial Speaker**, Deep Learning for Dialogue Systems *New Orleans, LA*

WORKSHOP KEYNOTE SPEECH

Nov 2021	2021 The 7th Workshop on Noisy User-generated Text (W-NUT) , Misrecognition and then Misunderstanding – Robust Spoken Language Understanding	<i>Virtual</i>
Oct 2021	Conversational Agents with Structured Knowledge (CASK) , Duality Exploitation for Language Understanding and Generation	<i>Virtual</i>
Mar 2021	IR Workshop (NLP4ConvAI) , Conversational AI	<i>Virtual</i>
Jul 2020	The 2nd Workshop on NLP for Conversational AI (NLP4ConvAI) , Robust and Scalable Conversational AI	<i>Virtual</i>
Jun 2020	16th Workshop on Spoken Dialogue Systems for PhDs, Postdocs & New Researchers (YRRSDS) , Robust and Scalable Conversational AI	<i>Virtual</i>
Apr 2020	The 8th International Workshop on Natural Language Processing for Social Media (SocialNLP) , Robust and Scalable Conversational AI	<i>Virtual</i>
Nov 2019	AI Academy Annual Meeting , Gap between Intelligent Assistants and Iron Man’s Jarvis	<i>Taipei, Taiwan</i>
Jul 2019	Workshop on Conversation Information System (WCIS) , Can Current Conversational Systems Satisfy Users?	<i>Paris, France</i>
Jun 2019	The 3rd Augmented Intelligence and Interaction (AII) Workshop , Can Current Conversational Assistants Satisfy Users?	<i>New Taipei, Taiwan</i>
May 2019	IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) , Learning for Language Generation & Understanding	<i>Brington, U.K.</i>
Dec 2018	Spoken Language Technology (SLT) Microsoft Challenge Workshop , Towards Open-Domain Conversational AI	<i>Athens, Greece</i>
Oct 2018	Search-Oriented Conversational AI (SCAI) Workshop , Towards Open-Domain Conversational AI	<i>Brussels, Belgium</i>
Jul 2018	Speech Signal Processing Workshop , Towards Personalized Conversational AI	<i>Taichung, Taiwan</i>
May 2018	The 2nd Augmented Intelligence and Interaction (AII) Workshop , How Contexts Matter Understanding in Dialogues	<i>Taoyuan, Taiwan</i>
Jun 2017	The 1st Augmented Intelligence and Interaction (AII) Workshop , Deep Learning for Language Understanding and Dialogue Modeling	<i>Taoyuan, Taiwan</i>

Professional Activities

PROGRAM CO-CHAIR

2020, 2024

- The 2024 Conference on Empirical Methods in Natural Language Processing
- The 21st Annual Meeting of the Special Interest Group on Discourse and Dialogue

JOURNAL EDITOR

2021 - Present

- IEEE/ACM Transactions on Audio, Speech and Language Processing
- Computer Speech and Language

WORKSHOP ORGANIZER

2020 - Present

- 4th NLP for Conversational AI (NLP4ConvAI) – 2022
- The Tenth Dialog System Technology Challenge (DSTC10)– 2021
- 3rd NLP for Conversational AI (NLP4ConvAI) – 2021
- The Ninth Dialog System Technology Challenge (DSTC9)– 2020
- 1st NLP for Conversational AI (NLP4ConvAI) – 2019

SESSION CHAIR

2018 - Present

- Annual Meeting of the Special Interest Group on Discourse and Dialogue – 2020 (Generation and Task-Oriented)
- AACL Conference on Artificial Intelligence – 2020 (NLP: Dialogue)
- Association for Computational Linguistics – 2019 (Task-Oriented Dialogues)
- North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT) – 2018 (Dialogue and Interactive Systems)
- Computational Linguistics (COLING) – 2018 (Dialogue Systems)

AREA CHAIR

2017 - Present

- Association for Computational Linguistics (ACL) – 2019, 2020
- Empirical Methods in Natural Language Processing and International Joint Conference on Natural Language Processing (EMNLP-IJCNLP) – 2019, 2020
- AACL Conference on Artificial Intelligence (AAAI) – 2021
- North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT) – 2018
- Computational Linguistics (COLING) – 2018

PROGRAM COMMITTEE

2014 - Present

- Association for Computational Linguistics (ACL) – 2016, 2017, 2018
- Empirical Methods in Natural Language Processing (EMNLP) – 2015, 2016, 2017, 2018
- North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT) – 2016, 2018, 2019
- AAAI Conference on Artificial Intelligence (AAAI) – 2017, 2018, 2019, 2020
- International Conference on Learning Representations (ICLR) – 2019
- International Joint Conference on Artificial Intelligence (IJCAI) – 2018, 2019, 2020
- Automatic Speech Recognition Understanding (ASRU) – 2017, 2019
- Neural Information Processing Systems (NeurIPS) – 2016, 2018
- International Speech Communication Association (INTERSPEECH) – 2016, 2017, 2018, 2019, 2020
- International Conference on Acoustics, Speech, and Signal Processing (ICASSP) – 2016, 2017, 2018, 2019, 2020
- Spoken Language Technology (SLT) – 2014, 2016, 2018
- Computational Linguistics (COLING) – 2016, 2018
- Language Resources and Evaluation (LREC) – 2016, 2018
- International Conference on Multimodal Interaction (ICMI) – 2015
- International Conference on Data Mining (ICDM) – 2016
- NIPS-SLU – 2015
- MASC-SLL – 2015

JOURNAL REVIEWER

2013 - Present

- IEEE/ACM Transactions on Audio, Speech and Language Processing: 2013, 2014, 2015, 2016, 2017, 2019, 2020
- Transactions of the Association for Computational Linguistics: 2015
- Artificial Intelligence Review: 2015
- International Journal on Artificial Intelligent Tools: 2014, 2015, 2016