Yi-Lin Tuan

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EDUCATION

Ph.D. Computer Science 2019-present
University of California, Santa Barbara
- Advised by prof. William Yang Wang.

B.S. Electrical Engineering 2013-2017
National Taiwan University
- Advised by prof. Lin-shan Lee, prof. Hung-yi Lee, prof. Yun-Nung Chen.

WORKING EXPERIENCE

Research Intern 2022 Summer
Meta AI, Menlo Park
- Host by Wenhan Xiong, Chunting Zhou, Chunyang Wu, Anchit Gupta, Yashar Mehdad
- Worked on efficient model architecture for natural language generation based on state-space model.

Applied Scientist Intern 2021 Summer
Amazon Alexa AI, Boston (remote)
- Host by Sajjad Beygi, Maryam Fazel-Zarandi, Qiaozi Gao, Alessandra Cervone
- Worked on knowledge and logical reasoning of dialogue systems.

Research Intern 2020 Summer
Facebook AI, Menlo Park (remote)
- Host by Ahmed El-Kishky, Adithya Renduchintala, Vishrav Chaudhary, Francisco Guzmán, Lucia Specia
- Worked on quality estimation of machine translation. Compared with work using human annotations, we can achieve comparable or even better quality estimation performance using data synthesis method.

Research Assistant 2017-2019
National Taiwan University, Taipei
- Advised by Hung-yi Lee, Yun-Nung Chen, Lin-shan Lee
- Worked on generative adversarial networks and reinforcement learning in conditional sequence generation for computational efficiency, optimization, and application.
- Worked on temporal knowledge graph-grounded dialogue generation and collected needed conversational TV series data.
- Worked on lyrics recognition and collected vocal-only songs data for transcribing tasks.

PUBLICATIONS & PREPRINTS

* indicates equal contribution.

- **Yi-Lin Tuan**, Alon Albalak, Wenda Xu, Michael Saxon, Connor Pryor, Lise Getoor, William Yang Wang. "CausalDialogue: Modeling Utterance-level Causality in Conversations" In: Findings of ACL (long paper), 2023

- **Yi-Lin Tuan**, Zih-Yun Chiu, William Yang Wang. "Atomized Deep Learning Models" In: arXiv preprint arXiv:2210.03728, 2022

- Zih-Yun Chiu*, **Yi-Lin Tuan***, William Yang Wang, Michael Yip. "Knowledge-Grounded Reinforcement Learning" In: arXiv preprint arXiv:2210.03729, 2022

- Alon Albalak, **Yi-Lin Tuan**, Pegah Jandaghi, Connor Pryor, Luke Yoffe, Deepak Ramachandran, Lise Getoor, Jay Pujara, William Yang Wang. "FETA: A Benchmark for Few-Sample Task Transfer in Open-Domain Dialogue". In: EMNLP (long paper), 2022

- Wenda Xu, **Yi-Lin Tuan**, Yujie Lu, Michael Saxon, Lei Li, William Yang Wang. "Not All Errors are Equal: Learning Text Generation Metrics using Stratified Error Synthesis". In: Findings of EMNLP (long paper), 2022

- **Yi-Lin Tuan**, Sajjad Beygi, Maryam Fazel-Zarandi, Qiaozi Gao, Alessandra Cervone, and William Yang Wang. "Towards Large-Scale Interpretable Knowledge Graph Reasoning for Dialogue Systems". In: Findings of ACL (long paper), 2022

- Kai Nakamura, Sharon Levy, **Yi-Lin Tuan**, Wenhu Chen, and William Yang Wang. "HybriDialogue: An Information-Seeking Dialogue Dataset Grounded on Tabular and Textual Data". In: Findings of ACL (long paper), 2022

- Alon Albalak, Varun Embar, **Yi-Lin Tuan**, Lise Getoor, and William Yang Wang. "D-REX: Dialogue Relation Extraction with Explanations". In: 4th Workshop on NLP for ConvAI at ACL, 2022.

- Lucas Relic, Bowen Zhang, **Yi-Lin Tuan**, Michael Beyeler, "Deep Learning–Based Perceptual Stimulus Encoder for Bionic Vision". In: ACM Augmented Humans, 2022 **(Best Poster Award)**

- **Yi-Lin Tuan**, Connor Pryor, Wenhu Chen, Lise Getoor, and William Yang Wang. "Local Explanation of Dialogue Response Generation". In: NeurIPS, 2021

- **Yi-Lin Tuan**, Ahmed El-Kishky, Adi Renduchintala, Vishrav Chaudhary, Francisco Guzman, and Lucia Specia. "Quality Estimation without Human-labeled Data". In: EACL (short paper), 2021

- **Yi-Lin Tuan**, Wei Wei, and William Yang Wang. "Knowledge Injection into Dialogue Generation via Language Models". In: arXiv preprint arXiv:2004.14614v2, 2020

- **Yi-Lin Tuan**, Yun-Nung Chen, and Hung-yi Lee. "DyKgChat: Benchmarking Dialogue Generation Grounding on Dynamic Knowledge Graphs". In: EMNLP-IJCNLP (long paper), 2019 **(Best Paper Award at SoCalNLP19)**

- Feng-Guang Su*, Aliyah R Hsu*, **Yi-Lin Tuan**, and Hung-Yi Lee. "Personalized Dialogue Response Generation Learned from Monologues". In: Interspeech, 2019

- Zih-Yun Chiu, **Yi-Lin Tuan**, Hung-yi Lee, and Li-Chen Fu. "Parallelized Reverse Curriculum Generation". In: arXiv preprint arXiv:2108.02128, 2018

- **Yi-Lin Tuan***, Jinzhi Zhang*, Yujia Li, and Hung-yi Lee. "Proximal Policy Optimization and its Dynamic Version for Sequence Generation". In: arXiv preprint arXiv:1808.07982, 2018.

- **Yi-Lin Tuan** and Hung-Yi Lee. "Improving conditional sequence generative adversarial networks by stepwise evaluation". In: IEEE/ACM Transactions on Audio, Speech, and Language Processing 27.4 (2019), pp. 788–798, 2018

- Che-Ping Tsai*, **Yi-Lin Tuan***, and Lin-shan Lee. "Transcribing lyrics from commercial song audio: the first step towards singing content processing". In: ICASSP, 2018

HONORS & AWARDS

- *Best Poster Award* for "research on Deep Learning for Bionic Vision", ACM Augmented Humans, 2022.
- *Best Paper Award* for "research on dynamic knowledge graph-grounded dialogue generation", South California NLP Symposium (SoCalNLP), 2019.
- *Presidential Award (GPA rank 1/169)*, National Taiwan University, 2014

TALKS

- Invited Talk at Google AI NLP Reading Group, Virtual, "Local Explanation of Dialogue Response Generation", Nov 2021
- Contributed talk at SoCalNLP, Los Angeles, "Dynamic Knowledge-Grounded Dialogue Generation through Walking on the Graph", Sep 2019
- Invited talk (on behalf of professor William Wang) at EMNLP FEVER workshop, Hong Kong, "Fact Verification with Semi-Structured Knowledge", Nov 2019
- Invited talk at ASUS, Taipei, "Dialogue Response Generation Grounded on Dynamic Knowledge Graphs", 2019

ACADEMIC SERVICES

- Served as reviewer for conferences at ACL 2023, ICLR 2022, EMNLP 2022, AAAI 2021.
- Served as reviewer for workshops at AAAI'23 KnowledgeNLP, SoCALNLP 2022.
- Served as reviewer for Journal Computers and Electrical Engineering.
- Served as second reviewer for conferences IJCAI 2019, EMNLP 2019-2018, ACL 2018.
- Served as second reviewer for Journals TASLP, CSL, APSIPA, TACL, CSUR.

TEACHING EXPERIENCE

- *Natural Language Processing (CS190I), UCSB*   *Winter 2022*
  Assisted professor William Yang Yang, core undergraduate class on the fundamentals of natural language processing.
- *Machine Learning and Having it Deep and Structured (CommE 5045), NTU Spring 2017*
  Assisted professor Hung-yi Lee, core graduate class on the fundamentals of machine learning and deep learning.