

HUNG-TING CHEN

☎ (+1)7372742457 ✉ hung-ting.chen@nyu.edu 🌐 timchen0618.github.io 📄 timchen0618

RESEARCH INTEREST

Natural Language Processing, Machine Learning. More specifically, I am interesting in building system that can understand language and respond to human queries accurately.

EDUCATION

B.S. in Electrical Engineering, National Taiwan University (NTU) *Sept. 2016 - June 2020*

Overall GPA: 4.26/ 4.30 (No. 4/177)

M.S. in Computer Science, University of Texas at Austin (UT Austin) *Aug. 2021 - May 2023*

Overall GPA: 3.95/ 4.00

Ph.D. in Computer Science, University of Texas at Austin (UT Austin) *Aug. 2023 - Aug. 2024*

Overall GPA: 4.00/ 4.00

Ph.D. in Computer Science, New York University *Aug. 2024 - Present*

Overall GPA: 4.00/ 4.00

advised by *Prof. Eunsol Choi* (Aug. 2021 - Present)

AWARDS

- 3 * Academic Excellence Award (top 5% in department in a semester)
- 2nd Place in NTUEE Undergraduate Innovation Award
- 2nd Place in Small Data Training for Medical Images Contest (held by HTC Taiwan)

PUBLICATION

- **Hung-Ting Chen**, Eunsol Choi. “Open-World Evaluation for Retrieving Diverse Perspectives ” *ArXiv Preprint*
- **Hung-Ting Chen**, Fangyuan Xu*, Shane A. Arora*, Eunsol Choi. “Understanding Retrieval Augmentation for Long-Form Question Answering” *Conference on Language Modeling (COLM 2024)*
- Ge Gao*, **Hung-Ting Chen***, Yoav Artzi, Eunsol Choi. “Continually Improving Extractive QA via Human Feedback” *The 2023 Conference on Empirical Methods in Natural Language Processing (EMNLP 2023)*
- **Hung-Ting Chen**, Michael J.Q. Zhang, Eunsol Choi. “Rich Knowledge Sources Bring Complex Knowledge Conflicts: Recalibrating Models to Reflect Conflicting Evidence” *The 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP 2022)*
- Shane Arora*, Marzena Karpinska*, **Hung-Ting Chen**, Ipsita Bhattacharjee, Mohit Iyyer, Eunsol Choi. “CaLMQA: Exploring culturally specific long-form question answering across 23 languages” *ArXiv Preprint*
- **Hung-Ting Chen***, Yu-Chieh Chao*, Ta-Hsuan Chao*, Wei-Yun Ma. “Predict and Use Latent Patterns for Short-Text Conversation” *The Fourth Workshop on Reasoning and Learning for Human-Machine Dialogues at AAAI 2021*

(*indicates equal contribution)

RESEARCH EXPERIENCE

Computer Science Department, New York University (Advisor: Prof. Eunsol Choi)

Develop a Diverse Retriever (ongoing)

Aug. 2024 - Present

- Devise architecture modification and training pipeline for fine-tuning a retriever with increased diversity

Salesforce AI Research (Manager: Semih Yavuz)

Improving Multi-hop Reasoning with Reasoning Chain Aggregation

May 2024 - Aug. 2024

- Designed reasoning chains that could help improve multi-hop reasoning of LLMs

- Developed self-consistency-inspired aggregation scheme on various types of reasoning chains

Computer Science Department, UT Austin (Advisor: Prof. Eunsol Choi)

Evaluation of Retrieval Diversity [\[Arxiv Link\]](#) Sept. 2023 - May 2024

- Constructed a benchmark for evaluating whether diverse perspectives are retrieved for subjective questions
- Showed the incapability of existing retrievers to retrieve diverse perspectives and proposed improvements

Retrieval Augmentation in Long-Form QA [\[Arxiv Link\]](#) Oct. 2022 - Sept. 2023

- Studied how three LMs (WebGPT, GPT-3.5, and Alpaca) use retrieved documents in-context
- Collected human annotations on whether answers are supported by the reference documents in RAG setting

Continual Learning on Extractive QA [\[Arxiv Link\]](#) July 2022 - May 2023

- Collect multiple batches of user feedback to a QA system with Amazon Mechanical Turk
- Improve accuracy of answers by 11% using bandit learning

Knowledge Conflicts in Open-Retrieval QA [\[Arxiv Link\]](#) Sept. 2021 - June 2022

- Investigated knowledge conflicts between different knowledge sources in open-retrieval QA setting
- Showed that models rarely hallucinate when provided with a high-quality retriever
- Trained a separate calibrator to refrain the model from answering questions with knowledge conflicts

Institute of Information Science, Academia Sinica (Advisor: Prof. Wei-Yun Ma)

Data-to-Text Generation System [\[Website Link\]](#) July 2020 - July 2021

- Improved attribute mention accuracy by 17% with template-based transformer model
- Enhanced generation quality of the system via template optimization

Dialogue Generation with Latent Pattern [\[Github Link\]](#) [\[Arxiv Link\]](#) June 2019 - June 2020

- Incorporated information from a latent sentence or part-of-speech sequence predicted by model
- Obtained 36.42 BLEU-1 score on Weibo Benchmark Dataset

Speech Processing Laboratory, NTU (Advisor: Prof. Lin-Shan Lee & Hung-Yi Lee)

Entity-Aware Automatic Text Summarization [\[Github Link\]](#) Sept. 2018 - June 2020

- Implemented a transformer-based neural model with pointer-generator network to summarize text
- Incorporated named-entity information into summarization model with modified attention mechanism
- Introduced entity-aware embedding to enhance ROUGE-1, -2 scores by 5% and 8%

Meta-Learning on Speech Recognition Feb. 2020 - June 2020

- Investigated methods of meta-learning and implemented a paper in PyTorch [\[Github Link\]](#)
- Researched meta-learning methods on cross-accented automatic speech recognition

SERVICES

Teaching Assistant (TA) for *Signals and Systems* (NTU) Feb. 2019 - June 2019

- Graded assignments and two exams
- Answered questions from students during weekly office hours

TA for *Deep Learning for Human Language Processing* (NTU) Feb. 2020 - June 2020

- Designed and graded programming assignment on the topic Source Separation

TA for *Natural Language Processing* (UT Austin) Jan. 2022 - May 2022

- Graded assignments, final project and final exam
- Led a review session and answered questions from students during weekly office hours

Reviewer

- EMNLP (2022, 2023), ARR (Feb 2024, Aug 2024, Oct 2024), ACL 2023, AKBC 2022, KnowledgeLM @ ACL2024

COURSE PROJECTS

Improving VQA Model Robustness with Adversarial Inputs [\[Report Link\]](#) Jan. 2022 - May 2022

- Augmented the training set with adversarial inputs using paraphrase generation and adversarial attack
- Improved accuracy of various VQA backbone models on VQA-CP test set by 4-9%

Neural-Based Medical Image Analysis – Disease Detection [\[Github Link\]](#) Dec. 2018 - Jan. 2019

- Developed a neural model identifying 14 diseases on NIH chest X-Ray dataset
- Led the team of three people, assigned tasks, and designed project structure
- Achieved 2nd place in “Small Data Training for Medical Images Contest”

Multi-Source Domain Adaptation on DomainNet [\[Poster Link\]](#) May. 2019 - June. 2019

- Modified Adversarial Discriminative Domain Adaptation (ADDA) into FuzzyADDA
- Implemented Maximum Classifier Discrepancy (MCD) method
- Ranked 1st and 2nd in public and private leaderboards in Kaggle competition out of 20 teams

TECHNICAL STRENGTHS

Programming Languages	C++, Python, Matlab
Machine Learning	PyTorch, Keras, Tensorflow, Google Cloud VM, Huggingface, OpenAI APIs
Web Development	HTML, Flask, Javascript, Firebase, Heroku
Data Collection	MTurk, Prolific
Languages	Mandarin (Native), English (Fluent, TOEFL iBT: 109)

Last updated: Dec 26, 2024