HUNG-TING CHEN

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RESEARCH INTEREST

Natural Language Processing, Machine Learning

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 - Present*
Overall GPA: 4.0/ 4.0

Relevant Courses
Computer Science: Computer Programming, Data Structure and Programming, Algorithms, Computer Architecture, Operating Systems, Introduction to Computer Networks
Machine Learning: Machine Learning, Deep Learning for Computer Vision, Natural Language Processing, Deep Learning Seminar, Grounded Natural Language Processing

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)

RESEARCH EXPERIENCE

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

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

Continual Learning on Extractive QA (Ongoing) July 2022 - Present
- Collect multiple batches of user feedback to a QA system with Amazon Mechanical Turk
- Improve accuracy of answers by 11% using bandit learning

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

Data-to-Text Generation System 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

PUBLICATION

- **Hung-Ting Chen**, Michael J.Q. Zhang, Eunsol Choi."Rich Knowledge Sources Bring Complex Knowledge Conflicts: Recalibrating Models to Reflect Conflicting Evidence" *Accepted to The 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP 2022)*
- **Hung-Ting Chen***, Yu-Chieh Chao*, Ta-Hsuan Chao*, Wei-Yun Ma."Predict and Use Latent Patterns for Short-Text Conversation" *Accepted to The Fourth Workshop on Reasoning and Learning for Human-Machine Dialogues at AAAI 2021* (*indicates equal contribution)

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

TEACHING

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

LEADERSHIP EXPERIENCE

Activities Manager of Pop Music Club July 2018 - June 2019

- Led a team of 12 members and organized 2 campus-wide events, drawing more than 300 participants
- Supervised the design and execution of all activities

Vice President of Changhua Area Alumni Association June 2017 - June 2018

- Controlled the overall running of the club and coordinated affairs of 6 departments
- Supervised and assisted in handling 10 events

TECHNICAL STRENGTHS

Programming Languages	C++, Python, Matlab
Machine Learning	PyTorch, Keras, Tensorflow
Web Development	HTML, Flask, Javascript
Languages	Mandarin (Native), English (Fluent, TOEFL iBT: 109)