Chao-Chun Hsu

DLC 170D, University of Colorado, Boulder, CO, USA

chao-chun.hsu@colorado.edu joe32140 joe32140.github.io +1 720-275-8368

Research Interests

Natural Language Processing, Information Solicitation, Emotion Recognition in Dialogues, Language & Vision

Education

University of Colorado Boulder **USA**
PhD student in Computer Science *2019 - present*
Adivsor: Prof. Chenhao Tan

National Taiwan University **Taiwan**
BS in Computer Science and Information Engineering, GPA (Last 60) : 3.89/4.30 *2013 - 2017*
Selected Courses (all graduate level):
Machine Learning, Applied Deep Learning, Intelligent Chat Bot, Information Visualization

Research Experiences

Natural Language Processing and Computational Social Science Lab, University fo Colorado Boulder
Research Assistant, Advisor: ***Prof. Chenhao Tan*** *2019 - present*

- **Understanding the Value of Notes in Electronic Health Record (Information Solicitation)**
  - Discovered that NOUNs are more important than ADJs and VERBs in physician notes of MIMIC-III dataset for in-hospital mortality prediction task
  - Finetuned GPT-2 language model on physician notes and found sentences with low perplexity have more predictive values than sentences with high perplexity for in-hospital mortality prediction task

Natural Language Processing and Sentiment Analysis Lab, Academia Sinica
Research Assistant, Advisor: ***Dr. Lun-Wei Ku*** *2017 - 2019*

- **Visual Storytelling**
  - Constructed an interactive visual storytelling system. Users can modify the detected terms within the images to construct desired stories via a web application, (Publication [1], Grant [a])
  - Proposed an Inter-Sentence Diverse Beam Search method to reduce the redundancy sentence of similar images sequence and improve the Meteor score by 2.4% versus baseline model, (Publication [3], Grant [c])
- **Textual Emotion Recognition in Dialogues**
  - Exploited the turn-taking information in dialogue emotion recognition task and achieved 3% improvement on IEMOCAP dataset by modeling emotional states of different speakers
  - Organized a challenge in SocialNLP2018: *EmotionX Challenge: Recognizing Emotion in Dialogues*, (Publication [4])
  - Collected emotional dialogue dataset from Friends TV show transcript and EmotionPush real chat log and labeled data by Amazon Mechanical Turk, (Publication [5], Grant [b], Dataset link,)

Publications

[1] **Dixit: Interactive Visual Storytelling via Term Manipulation**, **C.-C. Hsu***, Y.-H. Chen*, Z.-Y. Chen*, H.-Y. Chen, T.-H. Huang, L.-W. Ku, *WWW 2019 Demo* (*equal contribution)

[2] **Entropy-Enhanced Multimodal Attention Model for Scene-Aware Dialogue Generation**, K.-Y Lin, **C.-C. Hsu**, Y.-N. Chen, L.-W. Ku, *DSTC7 collocated with AAAI 2019*

[3] **Using Inter-Sentence Diverse Beam Search to Reduce Redundancy in Visual Storytelling**, **C.-C. Hsu**, S.-M. Chen, M.-H. Hsieh, L.-W. Ku, *Storytelling workshop collocated with NAACL 2018* (Paper link)

[4] **SocialNLP 2018 EmotionX Challenge Overview: Recognizing Emotions in Dialogues**, **C.-C. Hsu**, L.-W. Ku, *SocialNLP 2018 collocated with ACL 2018* (Paper link)

[5] **EmotionLines: An Emotion Corpus of Multi-Party Conversations**, S.-Y. Chen*, **C.-C. Hsu***, C.-C. Kuo, T.-H. Huang, L.-W. Ku, *LREC 2018* (Paper link) (*equal contribution)

Grants

[a] **2019 Travel Grant**, For attending International World Wide Web Conference, Academia Sinica
[b] **2018 Travel Grant**, For attending Language Resources and Evaluation Conference, Academia Sinica
[c] **2017 Research Grant for Undergraduate Student**, Ministry of Science and Technology Taiwan

Technical Skills

Languages: Python, LaTeX, C
Packages: Pytorch, Numpy, Tensorflow, Django