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Education

- **PhD. Student, Informatics**
  College of Information Sciences and Technology, Penn State University, 2019 – present
- **PhD. Student, Computer Science (transfer to PSU)**
  School of CIDSE, Arizona State University, 2017 – 2019
- **B.S., Electrical Engineering**
  Dept. Electrical Engineering, National Taiwan University, 2010 – 2014

Papers

[C.6] **Chieh-Yang Huang** and Lun-Wei Ku. (2018). EmotionPush: Emotion and Response Time Prediction towards Human-like Chatbots. To appear in Proceedings of the 2018 of the IEEE Global Communications Conference (**GLOBECOM 2018**), 9-13 December, 2018, Abu Dhabi, UAE.

[C.5] **Chieh-Yang Huang**, Tristan Labetoulle, Ting-Hao K. Huang, Yi-Pei Chen, Hung-Chen Chen, Vallari Srivastava, and Lun-Wei Ku. (2017). MoodSwipe: A Soft Keyboard that Suggests Messages Based on User-Specified Emotions. In the Demo track of the Conference on Empirical Methods in Natural Language Processing 2017 (**EMNLP Demo 2017**), 7–11 September, 2017, Copenhagen, Denmark.

[C.4] **Chieh-Yang Huang**, Mei-Hua, and Lun-Wei Ku (2018). Towards a Better Learning of Near-Synonyms: Automatically Suggesting Example Sentences via Filling in the Blank. In Proceedings of the 26th International Conference on World Wide Web Companion. (**WWW 2017**), 3-7 April, 2017, Perth, Australia.

[C.3] **Chieh-Yang Huang**, Ting-Hao K. Huang, and Lun-Wei Ku. (2017). Challenges in Providing Automatic Affective Feedback in Instant Messaging Applications. In the Designing the User Experience of Machine Learning Systems symposium **(AAAI 2017 Spring Symposium Series)**, 27-29 March, 2017, Palo Alto, USA.

[C.2] **Chieh-Yang Huang**, Nicole Peinelt, and Lun-Wei Ku. (2016). Automatically Suggesting Example Sentences of Near-Synonyms for Language Learners. In Proceedings of COLING 2016, the 26th International Conference on Computational Linguistics: System Demonstrations. (**COLING Demo 2016**), 13-16 December, 2016, Osaka, Japan.

[C.1] **Chieh-Yang Huang** and Lun-Wei Ku. (2016). GiveMeExample: Learning confusing words by example sentences. In the Demo Track of the Proceedings of the 2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining. (**ASONAM Demo 2016**), 18-21 August, 2016, San Francisco, USA.

Research Experience and Projects

- **Penn State University**, State College, PA, USA, 01/2019 – present.
  Research Assistant, Advisor: Dr. Ting-Hao K. Huang.
  Research Focuses: Crowd AI, NLP, Deep Learning, HCI.

  - **Crowd Writing**
    Writing is a complicated task that needs a complex skills. Supporting writing, therefore, is a difficult task for AI since AI is not capable of understanding. In this project, we try to provide various helps for writer by using the power of crowd.

- **Arizona State University**, Tempe, AZ, USA, 05/2018 – 12/2018.
  Research Assistant, Advisor: Dr. Hanghang Tong.
  Research Focuses: Text Mining, Deep Learning.

  - **Geographic Information Prediction on Twitter**
    Geographic Information plays an important role on both marketing and event mining, but is usually blocked due to the privacy issues. This project introduces a deep learning architecture taking the attention mechanism, the subword feature, and the location hierarchy structure into account to predict the geographic information for a given post on Twitter.

- **Institute of Information Science, Academia Sinica**, Taipei, Taiwan, 04/2015 – 06/2017.
  Research Assistant, Advisor: Dr. Lun-Wei Ku.
  Research Focuses: Computer-Assisted Language Learning, Deep Learning, Computer-Mediated Communication, Emotion Detection, Sentiment Analysis.

  - **GiveMeExample: Learning Synonyms by Example Sentences**
    GiveMeExample aims to suggest critical example sentences for language learner to clarify the confusion of synonym. Three main components, the sentence difficulty assessment built by a regression model, the word-sentence fitness estimator built by GMM and BiLSTM, and the heuristic clarification scoring function are introduced to solve this problem. Several websites are built for collecting data and holding evaluation tests.
    GiveMeExample is available here: `http://givemeexample.com`.
    [ASONAM Demo 2016] [COLING Demo 2016] [WWW 2016]
  - **EmotionPush: Color-Based Emotion Cues for Messaging Applications**
    EmotionPush provides a machine-learning-powered system that automatically conveys users' emotions in messages by color-based emotion cues to bridge the limitation of text-based chatting system in expressing rich emotion.
    [AAAI Spring Symposia 2017]
  - **MoodSwipe: A Keyboard for Sentence Suggestion According to Emotions.**
    MoodSwipe is a mobile phone keyboard that suggests text messages according to the user-specified emotion. We aim to create a convenient user interface to enjoy the technology of emotion classification and text suggestion, and at the same time to collect labeled data automatically. Two emotion classifier models, CNN and LSTM, and two sentence suggestion models, BM25 and similarity of sentence embedding, are built for MoodSwipe.
    [EMNLP Demo 2017]
  - **Response Time Prediction**
    This project aims to predict the response time of a given message sending on the instance message system. This task could be viewed as a measurement of the dialog generation system. A deep learning model integrating conversation and some user-specific information is proposed.
    [GLOBECOM 2018]

- **Communication & Multimedia Lab, National Taiwan University**, Taipei, Taiwan, 09/2013 – 06/2014.
  Undergraduate Intern Student, Advisor: Dr. Yung-Yu Chuang.
  Research Focuses: Digital Image Processing, Machine Learning.
  - **Light Field Image Multi-Label Assignment using Graph Cut.**
    The depth information is a unique feature of light field images. In this project, we aim to integrate the depth information into the multi-label assignment problem without calculating the depth explicitly. A light field image is then treated as a four dimensional image and a revised four dimensional graph cut algorithm is applied to solve this problem.
  - **Shape-Preserving As-Projective-As-Possible (APAP) Image Stitching.**
    APAP algorithm usually causes a distortion when stitching many images. Therefore, we aim to solve this problem by introducing an energy function containing deformation term, line preserving term, and APAP term on the mesh warping algorithm.
- **Speech Processing Lab, National Taiwan University**, Taipei, Taiwan, 09/2012 – 06/2014.
  Undergraduate Intern Student, Advisor: Dr. Lin-Shan Lee.
  Research Focuses: Speech Processing, Machine Learning.
  - **A Dialogue Game Framework with Personalized Training Using Reinforcement Learning.**
    This project aims to help language learners practice speaking through a dialogue game framework. A reinforcement learning agent is proposed to select the path of the dialogue tree in order to maximize the learning efficiency. To improve the pronunciation scoring system, we further integrated phonological features to a neural network model.

Activity and Leadership Experience

- **Director, Senior Yearbook Editor**
  Dept. Electrical Engineering, Taipei, Taiwan, 09/2013 – 06/2014
  - Familiar with Photoshop, Illustrator, and graphic design skills.
  - Leaded a team of ten people to edit the yearbook.
- **Director, Department of Art and Design**
  Electrical Engineering Student Association, Taipei, Taiwan, 09/2012 – 06/2013
  - Leaded a ten-person team to do graphic design and build installed artworks.
  - Supported activities such as Electrical Engineering Night, Christmas Prom, Freshmen Orientation Camp, Electrical Engineering Camp and so on.

References

- **Lun-Wei Ku**
  Associate Research Fellow, Institute of Information Science, Academia Sinica, Taiwan.
  `lwku@iis.sinica.edu.tw`
- **Mei-Hua Chen**
  Assistant Professor, Department of Foreign Languages and Literature, Tunghai University, Taiwan.
  `mhchen@thu.edu.tw`
- **Ting-Hao K. Huang**
  Tenure-Track Assistant Professor, College of Information Sciences and Technology, Pennsylvania State University, USA
  `txh710@psu.edu`