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Education

- **Ph.D., Language and Information Technologies**
  School of Computer Science, Carnegie Mellon University, 2013 – Present
  Advisor: Jeffrey P. Bigham.
- **M.S., Language and Information Technologies**
  School of Computer Science, Carnegie Mellon University, 2011 – 2013
  Advisor: Teruko Mitamura.
- **M.S., Computer Science**
  The Graduate Institute of Networking and Multimedia, National Taiwan University, 2007 – 2009
  Advisors: Hsin-Hsi Chen.
- **B.S., Computer Science**
  Dept. Computer Science and Information Engineering, National Taiwan University, 2003 – 2007
- **B.A., Chinese Literature (Double Major)**
  Dept. Chinese Literature, National Taiwan University, 2003 – 2007

Research Experience and Projects

- **Carnegie Mellon University**, Pittsburgh, PA, USA, 09/2013 – Present.
  Research Assistant, Advisor: Jeffrey P. Bigham.
  Research Focuses: Crowd-powered System, Dialogue System, Crowdsourcing.
  - **InstructableCrowd: Creating IF-THEN Rules via Conversations with the Crowd**
    We present a system that allows end-users to instruct the crowd to create trigger-action ("if, then") rules based on their needs. [CHI LBW 2016]
  - **Crowd-powered Conversational Interface for Web APIs**
    We present a crowd-powered system able to generate a natural language interface for arbitrary web APIs from scratch without domain-dependent training data or knowledge. [HCOMP WIP 2014] [HCOMP 2015]
  - **Chorus: A Crowd-Powered Conversational Assistant**
    Chorus is a purely crowd-powered dialogue system initiated by Walter S. Lasecki et al. in 2013. I work with Walter to maintain and refactor the Chorus system. We are currently looking forward to deploy it as a public web service.
  - **General Purpose Dialogue System**
    Instructor: Alex Rudnicky
    We combine the IR-based response generation approach and real-time crowdsorcing to develop a general purpose chatting system. When a input line reaches, the system first automatically

selects good answer candidates from CNN interview transcripts, and then we utilize real-time crowdsourcing to decide the best response.

- **Institute of Information Science, Academia Sinica**, Taipei, Taiwan, 01/2016 – 02/2016.
  Visiting Scholar, Host: Lun-Wei Ku.
  Research Focuses: Computer-Mediated Communication, Emotion Detection, Sentiment Analysis.

- **Microsoft Research**, Redmond, WA, USA, 05/2015 – 08/2015.
  Research Intern, Host: Meg Mitchell.
  Research Focuses: Crowdsourcing, Visual Storytelling, Image Captioning [EMNLP 2015]

- **Carnegie Mellon University**, Pittsburgh, PA, USA, 09/2011 – 08/2013.
  Research Assistant, Advisor: Teruko Mitamura.
  Research Focuses: Metaphor Detection and Interpretation.

  - **Metaphor Detection and Interpretation**
    In the IARPA project "Metaphpr", we develop the UIMA pipelines for metaphor detection and interpretation for English, Spanish, Russian, and Farsi. We also explore various approaches, including topic modeling and selectional preferences, to detect metaphorical language uses in large-scale data like social media and on-line forum. [SocialNLP 2013] [IJCLCLP 2014]
  - **ACBiMA: Advanced Chinese Bi-Character Word Morphological Analyzer**
    Instructor: Lori Levin
    A side project of Chinese morphology. We develop a corpus based on a well-defined morphological type scheme covering both Chinese derived words and compound words. A morphological analyzer is further built from this corpus. [SIGHAN 2015]
  - **Discourse Analysis of On-line Forums**
    Instructor: Carolyn P. Rose
    By using natural language technologies, we analyze the dynamics of language uses in an on-line support forum for cancers. We mainly work on non-literal language use, language accommodation, and pre-death user behaviors.

- **National Taiwan University**, Taipei, Taiwan, 09/2006 – 06/2011.
  Research Assistant, Advisor: Hsin-Hsi Chen.
  Research Focuses: Sentiment Analysis, Syntax, Morphology.

  - **Chinese Opinion Treebank**
    We develop the Chinese Opinon Treebank base on the regular Chinese Treebank. In this Opinion Treebank, information including opinions, their polarities, language use types are all defined and annotated. [LREC 2010]
  - **Structural Information and Sentiment Analysis**
    By introducing the syntactic and morphological information of Chinese language, we are able to improve the performance of sentiment classification. [EMNLP 2009] [IJCNLP 2011]
  - **Pollyanna**
    The Pollyanna phenomena describe the human tendency to use positive words more frequently than negative words. We perform detailed analyses of the Pollyanna phenomena in four Chinese corpora, and improve sentiment classification based on this phenomena. [COLING 2012]
  - **Chinese Morphology**
    A side project on classification of Chinese morphological types. [LREC 2010]
  - **Domain Dependent Sentiment Analysis**
    We model the sentiment among multiple corpora, and compare the bag-of-words features in each data set. [ROCLING 2012] [IJCLCLP 2012]

Awards and Honors

- Yahoo! Fellowship of the InMind project in CMU, 2014 – Present
- LTI Student Research Symposium 2013: Best Poster, 2013

Peer-Reviewed Conference, Workshop, and Demo Papers

1. **Ting-Hao K. Huang**, Amos Azaria, Jeffrey P Bigham. (2016). InstructableCrowd: Creating IF-THEN Rules via Conversations with the Crowd. In CHI '16 Late-Breaking Work on Human Factors in Computing Systems (**CHI LBW 2016**), May, 2016, San Jose, CA, USA.
2. **Ting-Hao K. Huang**, Walter S Lasecki, Jeffrey P Bigham. (2015). Guardian: A Crowd-Powered Spoken Dialog System for Web APIs. Conference on Human Computation & Crowdsourcing (**HCOMP 2015**), November, 2015, San Diego, USA. (Acceptance Rate = 30%).
3. Francis Ferraro, Nasrin Mostafazadeh, **Ting-Hao K. Huang**, Lucy Vanderwende, Jacob Devlin, Michel Galley, Margaret Mitchell. (2015). A Survey of Current Datasets for Vision and Language Research. Conference on Empirical Methods in Natural Language Processing (**EMNLP 2015**), September, 2015, Lisbon, Portugal. (Acceptance Rate = 24%, 312/1315).
4. **Ting-Hao K. Huang**, Yun-Nung Chen, Lingpeng Kong. (2015). ACBiMA: Advanced Chinese Bi-Character Word Morphological Analyzer. The 8th SIGHAN Workshop on Chinese Language Processing (**SIGHAN 2015**), July 30-31, 2015, Beijing, China. (Acceptance Rate = 29%).
5. **Ting-Hao K. Huang**, Walter S. Lasecki, Alan L. Ritter, Jeffrey P. Bigham. (2014). Combining Non-Expert and Expert Crowd Work to Convert Web APIs to Dialog Systems. Work-in-Progress paper in the Proceeding of Conference on Human Computation and Crowdsourcing (**HCOMP 2014**), November 2-4, 2014, Pittsburgh, USA.
6. **Ting-Hao (Kenneth) Huang**. (2013). Social Metaphor Detection via Topical Analysis. IJCNLP 2013 Workshop on Natural Language Processing for Social Media (**SocialNLP 2013**), pages 14–22, Nagoya, Japan, 14 October 2013.
7. **Ting-Hao (Kenneth) Huang**, Ho-Cheng Yu and Hsin-Hsi Chen. (2012). Modeling Pollyanna Phenomena in Chinese Sentiment Analysis. Proceedings of the COLING 2012 (**COLING 2012**) as a demo paper.
8. Ho-Cheng Yu, **Ting-Hao (Kenneth) Huang** and Hsin-Hsi Chen. (2012). Domain Dependent Word Polarity Analysis for Sentiment Classification. Proceedings of the 24th ROCLING (**ROCLING 2012**) conference.
9. Lun-Wei Ku, **Ting-Hao (Kenneth) Huang**, and Hsin-Hsi Chen. (2011). Predicting Opinion Dependency Relations for Opinion Analysis. Proceeding of IJCNLP (**IJCNLP 2011**).
10. **Ting-Hao Huang**, Lun-Wei Ku, and Hsin-Hsi Chen. (2010). Predicting Morphological Types of Chinese Bi-Character Words by Machine Learning Approaches. Proceedings of LREC (**LREC 2010**), Malta, pp. 844–850.
11. Lun-Wei Ku, **Ting-Hao Huang**, and Hsin-Hsi Chen. (2010). Construction of a Chinese Opinion Treebank. Proceeding of LREC (**LREC 2010**), Malta, pp. 1315–1319.
12. Lun-Wei Ku, **Ting-Hao Huang**, and Hsin-Hsi Chen. (2009). Using Morphological and Syntactic Structures for Chinese Opinion Analysis. Proceedings of EMNLP (**EMNLP 2009**), Singapore, pp. 1260–1269.

Peer-Reviewed Journal Papers

1. **Ting-Hao (Kenneth) Huang**: Social Metaphor Detection via Topical Analysis. International Journal of Computational Linguistics and Chinese Language Processing (**IJCLCLP**), 19(2) (2014). (Published)
2. Ho-Cheng Yu, **Ting-Hao Huang**, and Hsin-Hsi Chen. (2012). Domain Dependent Word Polarity Analysis for Sentiment Classification. International Journal of Computational Linguistics and Chinese Language Processing (**IJCLCLP**), 17(3-4): Special Issue on ROCLING 2012. (Published)

Thesis

- **Ting-Hao Huang**. (2009). Automatic Extraction of Intra- and Inter- word Syntactic Structures for Chinese Opinion Analysis. Master thesis, Graduate Institute of Networking and Multimedia (GINM), National Taiwan University, Taipei.

Software

1. **Ting-Hao K. Huang**. **UIMA Regex**. Computer software. UIMA Regex. Vers. 4.0. Carnegie Mellon University, 23 Apr. 2013. Web. 03 Feb. 2015. <https://sites.google.com/site/uimaregex/>.
2. **Ting-Hao K Huang**. **Alt Text Editor**. Computer software. Alt Text Editor. Vers. 1. N.p., 25 Feb. 2015. Web. Class project of the "Web Accessibility" class (05-897 A3) at Carnegie Mellon University. Instructor: Prof. Jennifer Mankoff and Prof. Jeffrey Bigham. Project Website: <https://talkingtothecrowd.org/Chorus/AltText/>.

Student Mentoring

- Jason Chen (Undergraduate student, CMU, 2014 – 2015)
- Ho-Cheng Yu (Master student, National Taiwan University, 2010 – 2011)

Natural Languages

- Mandarin Chinese (Native), English (Fluent), Taiwanese (Fluent), Latin (Basic)

Programming Languages and Tools

- Languages: Java, PHP, Javascript, jQuery, CSS, Python
- Tools & Frameworks: Apache UIMA, Weka, LibSVM

Honors as a Writer

- Mystery Writers of Taiwan" Membership, 2010 – Present
- Mystery Writers of Taiwan: Mystery Fiction Award, 2010
  Short Story: "The Maiden's Prayer"
- "Taipei The Less" Essay Prize: First Prize, 2005
  Flash Fiction: "Genesis in Taipei."

References

- **Dr. Margaret Mitchell**
  Researcher, Microsoft Research, USA.
- **Prof. Jeffrey P. Bigham**
  Associate Professor, Human-Computer Interaction Institute, Carnegie Mellon University, USA.
- **Prof. Teruko Mitamura**
  Research Professor, Language Technologies Institute, Carnegie Mellon University, USA.
- **Dr. Lun-Wei Ku**
  Assistant Research Fellow, Institute of Information Science, Academia Sinica, Taiwan.
- **Prof. Hsin-Hsi Chen**
  Professor, Department of Computer Science and Information Engineering, National Taiwan University, Taiwan.

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