YI-HUI (LILY) LEE

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RESEARCH INTEREST

- I wish to create an AI that can truely understand and think like human kind instead of feeding data and statistic number to predict.
- In my previous experience, I mainly using deep learning techniques and natural language processing to identify and inspect disinformation, fake news, fake images in the social society.
- My current work focuses on the security problems of generative adversarial networks, convolutional neural networks, and autoencoder on photos and video.

EDUCATION

The University of Texas at Dallas   **Richardson, TX**
Ph.D. in Computer Science (GPA: 3.70/4.00)   *Aug. 2018 to May. 2023*
- Utilizing **Deep Learning model** to Empower Information Security Analysis   Advisor: **Prof. Shuang Hao**

National Taiwan Normal University   **Taipei, Taiwan**
M.S. and B.S. in Computer Science and Information Engineering (GPA: 4.24/4.30; 3.49/4.00)   *Sep. 2011 to Aug. 2017*
- Knowledge Discovery and Data Mining: Text Mining and Relation Extraction [3]   Advisor: **Prof. Jia-Ling Koh**

PUBLICATIONS

1 Mu Yang, Chi-Yen Chen, **Yi-Hui Lee**, Qian-Hui Zeng, Wei-Yun Ma, "Headword-Oriented Entity Linking: A New Entity Linking Task with Dataset and Baseline," *Proc. LREC*, May 2020.
2 Kung-Hsiang Huang, Yi-Fu Fu, Yi-Ting Lee, Tzong-Hann Lee, Yao-Chun Chan, **Yi-Hui Lee**, Shou-De Lin, "A-HA: A Hybrid Approach for Hotel Recommendation," *Proc. the 13th ACM Recommender Systems Challenge Workshop*, *RecSys Challenge*, September 2019.
3 **Yi-Hui Lee**, Jia-Ling Koh, "Conditional Relationship Extraction for Diseases and Symptoms by a Web Search-Based Approach," *Proc. IEEE/WIC/ACM International Conference on Web Intelligence*, December 2018.
4 Peng-Yu Chen, **Yi-Hui Lee**, Yueh-Han Wu, Wei-Yun Ma, "IExM: Information Extraction System for Movies," *Proc. ACM WWW Demo Track*, April 2017. (**best demo - special mention award**)

AWARDS

- **4th Place (4/1564)**, ACM RecSys X Trivago Challenge 2019 [2]
- **Travel Grant**, Google Grace Hopper Celebration, 2018
- **Women Techmakers Scholarship**, Google (Asia Pacific Area), 2017
- **1st Place**, PIXNET (Taiwan) CHATBOT HACKATHON, 2017
- **Travel Grant**, Ministry of Science and Technology (Taiwan), 2017, 2016
- **Outstanding Graduate Student**, National Taiwan Normal University, 2016
- **Undergraduate Research Fellowship**, Ministry of Science and Technology (Taiwan), 2014
- **Top 25**, ATCC X IBM (Taiwan) 11th National College Business Case Competition, 2013

EXPERIENCE

The University of Texas at Dallas   **Richardson, TX**
Research Assistant, Advisor: ***Prof. Shuang Hao***   *Aug. 2018 to Present*
- Attacked and defended fake image and video, arranged Reddit posts and crowdsourced survey, ahcieved 83.5% accuracy.
- Adopted various deep convolutional neural networks, classified downsized MNIST, fine-tuned testing accuracy 80.84% in 4 mins.
- Utilized NLP technique and clustering algorithm, defined naming patterns of the IoT device from domain names.
Teaching Assistant   *May. 2019 to Present*
- Mentored a class of 70, moderated and evaluated NER research projects, accomplished 91.3% average accuracy rate.
- Natural Language Processing (Spring 2020), Machine Learning (Fall 2020, Spring 2021), Semantic Web (Fall 2019)

Institute of Information Science, Academia Sinica   **Taipei, Taiwan**
Research Assistant, Advisor: ***Dr. Wei-Yun Ma***   *Jul. 2016 to Jun. 2018*
- Designed a headword-oriented entity linking problem, built a product embedding model, raised accuracy from 64% to 83.4% [1]
- Proposed improved pattern ranking algorithm, extracted information from movies, improved f1 score from 67% to 73.4% [4]
- Led a team of 15 people for industry-university cooperation, reduced 90% manual label time and cost for 1,000k+ products.

IBM   **Taipei, Taiwan**
Software Engineering Intern   *Jul. 2015 to Dec. 2015*
- Troubleshot insurance batch system, debugged and detected in user acceptance testing stage, increased acceptance rate to 95%.
- Aligned 3 departments, confirmed software technical details, updated requirements specifications of insurance system.
- Planned round table panel talks for 100+ interns, reported to top managements, proposed a new type of emotional cloud service.

SKILLS

- **Programming Language**: Python, PyTorch, Tensorflow, C/C++, Java, Matlab, PHP, HTML, MySQL, JavaScript, CSS
- **Platform**: Keras, AWS EC2, GCP, Linux, Twitter API, Spark, Hadoop, OpenCL, OpenMP, LaTeX, Scrapy