HANGFENG HE

https://hornhehhf.github.io ◇ hangfeng@seas.upenn.edu

RESEARCH INTERESTS

My research interests include machine learning and natural language processing, with a focus on moving beyond scale-driven learning. Specifically, I work on incidental supervision for natural language understanding, the interpretability of deep neural networks, reasoning in natural language, structured data modeling, and question answering.

EDUCATION

University of Pennsylvania *2017 - Present*
Ph.D. in Computer and Information Science
Advisor: Dan Roth and Weijie Su

Peking University *2013 - 2017*
B.S. (*Summa Cum Laude*) in Computer Science

PREPRINTS

1. Shuxiao Chen, Koby Crammer, **Hangfeng He**, Dan Roth, and Weijie Su (**alphabetical order**). Weighted Training for Cross-Task Learning. In Arxiv, 2021.
2. Cong Fang, **Hangfeng He**, Qi Long, and Weijie Su (**alphabetical order**). Layer-Peeled Model: Toward Understanding Well-Trained Deep Neural Networks. In Arxiv, 2021.
3. Matteo Sordello, **Hangfeng He**, and Weijie Su. Robust Learning Rate Selection for Stochastic Optimization via Splitting Diagnostic. In Arxiv, 2019.

PUBLICATIONS

1. **Hangfeng He**, Mingyuan Zhang, Qiang Ning, and Dan Roth. Foreseeing the Benefits of Incidental Supervision. In EMNLP, 2021.
2. Zhun Deng, **Hangfeng He**, and Weijie Su. Toward Better Generalization Bounds With Locally Elastic Stability. In ICML, 2021.
3. Ayal Klein, Jonathan Mamou, Valentina Pyatkin, Daniela Brook Weiss, **Hangfeng He**, Dan Roth, Luke Zettlemoyer, and Ido Dagan. QANom: Question-Answer driven SRL for Nominalizations. In COLING, 2020.
4. Shuxiao Chen, **Hangfeng He**, and Weijie Su (**alphabetical order**). Label-Aware Neural Tangent Kernel: Toward Better Generalization and Local Elasticity. In NeurIPS, 2020.
5. Zhun Deng, **Hangfeng He**, Jiaoyang Huang, and Weijie Su. Towards Understanding the Dynamics of the First-Order Adversaries. In ICML, 2020.
6. **Hangfeng He**, Qiang Ning, and Dan Roth. QuASE: Question-Answer Driven Sentence Encoding. In ACL, 2020.
7. Soham Dan, **Hangfeng He**, and Dan Roth. Understanding Spatial Relations through Multiple Modalities. In LREC, 2020. (short papers)
8. **Hangfeng He** and Weijie Su. The Local Elasticity of Neural Networks. In ICLR, 2020.
9. Qiang Ning, **Hangfeng He**, Chuchu Fan, and Dan Roth. Partial or Complete, Thats The Question. In NAACL-HLT, 2019.

10. Jingjing Xu, **Hangfeng He**, Xu Sun, Xuancheng Ren, and Sujian Li. Cross-Domain and Semi-Supervised Named Entity Recognition in Chinese Social Media: A Unified Model. In TASLP, 2018.
11. Federico Fancellu, Adam Lopez, Bonnie Webber, and **Hangfeng He**. Detecting negation scope is easy, except when it isnt. In EACL, 2017. (short papers)
12. **Hangfeng He** and Xu Sun. F-Score Driven Max Margin Neural Network for Named Entity Recognition in Chinese Social Media. In EACL, 2017. (short papers)
13. **Hangfeng He** and Xu Sun. A Unified Model for Cross-Domain and Semi-Supervised Named Entity Recognition in Chinese Social Media. In AAAI, 2017.

RESEARCH EXPERIENCE

- **National Engineering Laboratory for Video Technology, Peking University**
- Advisor: Tingting Jiang. Oct. 2016 - May 2017.
- **Institute for Language, Cognition and Computation, University of Edinburgh**
- Advisor: Bonnie Webber, Jul. 2016 - Sept. 2016.
- **Language Computing and Machine Learning Group, Peking University**
- Advisor: Xu Sun, Oct. 2015 - Jun. 2016.

PROFESSIONAL ACTIVITIES

- **Reviewer:** ICML (2021), NeurIPS (2020), ACL (2019-2021), EMNLP (2019), NAACL (2019)

TEACHING

- Teaching Assistant, CIS 419/519 Applied Machine Learning
- Instructor: Dan Roth, Spring 2018 and Fall 2019

AWARDS AND HONORS

- Outstanding undergraduate in Peking University, 2017
- Weiling Scholarship, 2016
- Jianeng Scholarship, 2015
- May Fourth Scholarship, 2014