

# JIACHENG LI

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## EDUCATION

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- University of California, San Diego** Sep 2020 - Present  
Doctor of Philosophy. Advisors: Julian McAuley and Jingbo Shang.  
Department of Computer Science and Engineering.
- University of California, San Diego** Sep 2018 - June 2020  
Master of Science.  
Department of Computer Science and Engineering.
- Nanjing University of Posts and Telecommunications** Sep 2014 - June 2018  
Bachelor of Engineering.  
College of Computer Science.

## RESEARCH AREA

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Natural language processing, Recommender systems

## WORK EXPERIENCE

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- Applied Scientist Intern** Sep 2022 - Dec 2022  
*Amazon*  
Product graph team. Project: Neural-symbolic reasoning on product knowledge graph.
- Applied Scientist Intern** June 2022 - Sep 2022  
*Amazon*  
Product semantics team. Project: Attribute-enhanced personalized product highlights generation.
- Graduate Student Researcher-Machine Learning, NLP** Sep 2019 - Jun 2022  
*IBM Research, UC San Diego*  
Project: Information Extraction for Microbiome Knowledge Base Construction.
- Applied Scientist Intern** June 2021 - Sep 2021  
*Amazon*  
Personalization team. Supervisor: Tong Zhao
- Machine Learning for Natural Language Processing Intern** June 2020 - Sep 2020  
*Bosch USA.*  
Project: Weakly Supervised Named Entity Recognition by Rules.

## PUBLICATIONS

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- Jiacheng Li**, Ming Wang, Jin Li, Jinmiao Fu, Xin Shen, Jingbo Shang, Julian McAuley. Text Is All You Need: Learning Language Representations for Sequential Recommendation. *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD) 2023.*
- Jiacheng Li**, Zhankui He, Jingbo Shang, Julian McAuley. UCEpic: Unifying Aspect Planning and Lexical Constraints for Generating Explanations in Recommendation. *ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD) 2023.*
- An Yan, Zhankui He, **Jiacheng Li** and Julian McAuley. Personalized Showcases: Generating Multi-Modal Explanations for Recommendations. *International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR) 2023.*

Ranak Roy Chowdhury, **Jiacheng Li**, Xiyuan Zhang, Dezhi Hong, Rajesh Gupta, Jingbo Shang. PrimeNet: Pre-training for Irregular Multivariate Time Series. *AAAI Conference on Artificial Intelligence (AAAI) 2023*.

William Hogan, **Jiacheng Li**, Jingbo Shang. Fine-grained Contrastive Learning for Relation Extraction. *The 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP) 2022*.

**Jiacheng Li**, Yannis Katsis, Tyler Baldwin, Ho-Cheol Kim, Yoshiki Vazquezbaeza, Andrew Bartko, Julian McAuley and Chun-Nan Hsu. SPOT: Knowledge-Enhanced Language Representations for Information Extraction. *31st ACM International Conference on Information and Knowledge Management (CIKM) 2022*.

**Jiacheng Li**, Tong Zhao, Jin Li, Jim Chan, Christos Faloutsos, George Karypis, Soo-Min Pantel and Julian McAuley. Coarse-to-Fine Sparse Sequential Recommendation. *SIGIR 2022*.

**Jiacheng Li**, Jingbo Shang and Julian McAuley. UCTopic: Unsupervised Contrastive Learning for Phrase Representations and Topic Mining. *Annual Meeting of the Association for Computational Linguistics (ACL) 2022*.

**Jiacheng Li**, Haibo Ding, Jingbo Shang, Julian McAuley and Zhe Feng. Weakly Supervised Named Entity Tagging with Learnable Logical Rules. *Annual Meeting of the Association for Computational Linguistics (ACL) 2021*.

Yang Jiao\*, **Jiacheng Li**\*, Jiaman Wu, Dezhi Hong, Rajesh Gupta and Jingbo Shang. SeNsER: Learning Cross-Building Sensor Metadata Tagger. (*Findings of EMNLP*) 2020.

**Jiacheng Li**, Yujie Wang, Julian McAuley. Time Interval Aware Self-Attention for Sequential Recommendation. *International Conference on Web Search and Data Mining (WSDM) 2020*.

Jianmo Ni, **Jiacheng Li**, Julian McAuley. Justifying Recommendations using Distantly-Labeled Reviews and Fine-grained Aspect. *Empirical Methods in Natural Language Processing (EMNLP) 2019*.

An Yan, **Jiacheng Li**, Wanrong Zhu, Yujie Lu, William Yang Wang, Julian McAuley. CLIP also Understands Text: Prompting CLIP for Phrase Understanding. *Under Review*.

## PROJECTS

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### **Weakly Supervised Named Entity Recognition with both Symbolic and Neural Representations** *Research Project. Pytorch. Snorkel*

- An iterative framework to recognize entities starting from a few seeding entities.
- Generate and select rules from raw text and predicted entities automatically. Apply rules on raw text to expand more entities.
- An independent entity instances selector to reduce the noises in the expanded entities.
- Span-based named entity recognition.

### **Time Interval Aware Self-Attention for Sequential Recommendation** *Research Project. Tensorflow.*

- Designed a novel time interval aware self-attention (TiSA) mechanism to learn the weight of different items, absolute position and time intervals to predict the following items.
- We proposed to view users interactions history as a sequence with different time intervals, and model different time intervals as relations between any two interactions.