

XIANGCHEN SONG

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PUBLICATIONS

TaxoSort: Emerging Concept Sort in Taxonomy Expansion In submission
The 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP'20)

· **Xiangchen Song**, Jiaming Shen, Jiawei Han

Fine-Grained Named Entity Recognized Dataset of COVID-19 Literature In submission
The 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP'20)

· Xuan Wang, **Xiangchen Song**, Bangzheng Li, Kang Zhou, Qi Li, Jiawei Han

Comprehensive Named Entity Recognition on CORD-19 with Distant or Weak Supervision Oral and poster
2020 Intelligent Systems for Molecular Biology (ISMB'20)

· Xuan Wang, **Xiangchen Song**, Bangzheng Li, Yingjun Guan and Jiawei Han

Expert Finding via Subgraph Similarity Search on HINs In preparation

· **Xiangchen Song**, Sha Li, Bangzheng Li, Jieyu Zhang, Jiawei Han, Hanghang Tong

Unsupervised Role Discovery In preparation

· Sha Li*, **Xiangchen Song***, Jieyu Zhang, Jiawei Han, Heng Ji

EDUCATION

University of Illinois at Urbana-Champaign (UIUC) *Champaign, IL*
Major in Mathematics and Computer Science Aug 2018 - present

GPA: 4.0/4.0

John R. Pasta Outstanding Undergraduate Award 2020

On Dean's List in Fall 18 & Spring 19 & Fall 19 & Spring 20.

City University of Hong Kong (CityU HK) (Transferred out) *Kowloon Tong, Hong Kong*
Major in Electronic and Communication Engineering Aug 2016 - Aug 2018

Minor in Computer Science

GPA: 4.12/4.3

Class Rank: 1/126

Compass Scholarship

Member of Honor Society of Department of Electronic and Engineering

On Dean's List in academic year 2016/2017 and 2017/2018

RESEARCH INTERESTS

Data Mining with minimal human effort for automated knowledge construction.

RESEARCH & WORK EXPERIENCE

Taxonomy Expansion and Modification June 2020 - Now
Georgia Institute of Technology

· Further extend the taxonomy expansion task to automatically expand with emerging concept while adjusting the existing structure.

· Advisor: Prof. Chao Zhang

Named Entity Recognition study on COVID-19 Literature

March 2020 - June 2020

University of Illinois at Urbana-Champaign

- Develop seed guided distantly supervised Named Entity Recognition(NER).
- Ensemble multi-source NER result for fine-grained COVID-19 NER dataset.
- with Xuan Wang, Bangzheng Li, Advisor: Prof. Jiawei Han and Prof. Qi Li

Taxonomy Expansion with Emerging Concept Set

Feb 2020 - June 2020

University of Illinois at Urbana-Champaign

- Further develop the task and allow taxonomy structure generated within emerging concepts.
- Use self-supervision data to learn a model to generate a pseudo-order for taxonomy expansion.
- Compatible with state-of-the-art Taxonomy Expansion Models.
- with Jiaming Shen, Advisor: Prof. Jiawei Han

Expert Finding via Subgraph Similarity Search on HINs

Dec 2019 - May 2019

University of Illinois at Urbana-Champaign

- Introduce a novel embedding-based graph similarity search ranking algorithm for expert finding.
- Learning node embedding utilizing random walk based embedding technique.
- Random projection to generate graph-embedding.
- Advisor: Prof. Jiawei Han and Prof. Hanghang Tong

Unsupervised Role discovery

Aug 2019 - Mar 2020

University of Illinois at Urbana-Champaign

- End to end model for both schema induction and slot filling.
- Automatically discover important event specific roles for unlabeled corpus.
- with Sha Li, Advisor: Prof. Jiawei Han and Prof. Heng Ji

ARL & NSCTA Demo Project

March 2019 - Sep 2019

University of Illinois at Urbana-Champaign

- Cleaning data and response for the algorithm part of the whole demo.
- Implement page-ranking-like algorithm to rank items.
- Utilize CaseOlap Algorithm for event cube construction.
- Advisor: Prof. Jiawei Han.

Differential Private Graph Generation

Jan 2019 - May 2019

University of Illinois at Urbana-Champaign

- Generating Graphs with differential privacy constraints.
- Collecting data and baseline comparasion.
- with: Carl Yang and Haonan Wang, Advisor: Prof. Jiawei Han.

Random Access Analysis

May 2018 - Aug 2018

City University of Hong Kong

- Model and evaluate network performance of mixture of Aloha & CSMA System.
- Provide optimization method given several scenarios (Separated or overall performance).
- Advisor: Prof. Lin Dai.

Spherical Multidimensional Scaling

Nov 2017 - Aug 2018

City University of Hong Kong

- Using Spherical MDS to reconstruct the relationship of the original data.
- Advisor: Prof. Shuaicheng Li.

SELECTED COURSE WORK

Machine Learning & Data Mining: Data Mining Principles*, Advanced Topics in Information Retrieval*, Network Mining*, Introduction to Data Mining, Machine Learning

Core CS courses: Data Structure, Computer Architecture, System Programming, Algorithms and Models of Computation, Numerical Methods, Algorithm*, Numerical Analysis

MATH: Calculus & Linear Algebra, Probability, Non-linear Programming, Differential Equations, Real Analysis, Introduction to Combinatorics

(* denotes graduate-level courses)

TEACHING

Course Assistant for CS473 Algorithms

Jan 2020 - now

CA

University of Illinois at Urbana-Champaign

- Holding office hours, grading homework and answering questions on Piazza.

Course Assistant for CS374 Algorithms and Models of Computation

Aug 2019 - now

CA

University of Illinois at Urbana-Champaign

- Holding office hours, grading homework and answering questions on Piazza.

Peer Tutoring Scheme

Sept 2017 - May 2018

Tutor

City University of Hong Kong

- Hold weekly tutorial classes for freshman on Math & ECE classes

SKILLS

Language: English, Mandarin and Cantonese.

Programming Languages: C++, C, Python, PyTorch, spaCy

EXTRA-CIRRICULAR

President of Calligraphantasy - Chinese Calligraphy Culture Development Society in Hong Kong

Staff of IMUNC Beijing - Mock United Nation in Beijing 2017

Volunteer for teaching disabled student – CYEP Hong Kong.