

# Siyi Liu

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## Research Interests

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My primary research interest lies within the areas of natural language processing. Currently, I'm interested in understanding the implications of news articles (e.g. arguments/frames), bias in NLP, vision and language, text representations, and NLP for social good.

## Education

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**University of Pennsylvania**, Philadelphia, PA **2020-2022**  
M.S.E. in Computer and Information Science

**Boston University**, Boston, MA **2016-2020**  
B.A./M.S. Dual Degree in Computer Science

## Publications

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[1] **Siyi Liu\***, Sihao Chen\*, Xander Uyttendaele, Yi Zhang, William Bruno, Dan Roth  
“Design Challenges for a Multi-Perspective Search Engine”. on arXiv. [[Paper](#)]

[2] Weiqiu You, **Siyi Liu**, Mark Yatskar  
“Zero-shot Image Classification with Pre-trained Text Representations” (In progress)

[3] **Siyi Liu**, Sihao Chen, Xander Uyttendaele, Dan Roth  
“MultiOpEd: A Corpus of Multi-Perspective News Editorials”, in NAACL 2021.  
[[Paper](#)][[Slides/Talk/Poster](#)]

[4] **Siyi Liu**, Lei Guo, Kate Mays, Margrit Betke and Derry Tanti Wijaya.  
“Detecting Frames in News Headlines and Its Application to Analyzing News Framing Trends Surrounding U.S. Gun Violence.” In *Proceedings of Conference on Computational Natural Language Learning* (CoNLL) 2019.  
[[Paper](#)] [[Slides](#)]

[5] **Siyi Liu\***, Ziang Leng\*, Derry Tanti Wijaya.  
“Learning To Mirror Speaking Styles Incrementally.” on arXiv.  
[[Paper](#)]

## Demo

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### A Multi-Perspective Search Engine (In progress)

A system that presents search results in clusters of perspectives. Empirically, 63% of the participants in our survey prefer our system's organization to Google Search's given the same search results and UI.

[[Website](#)]

## Research Experience

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### University of Pennsylvania

Summer 2020 – Present

Advisor: Prof. Dan Roth

Project: Information Pollution Project

- A dataset with hierarchical structure of query, perspectives, evidence, article
- Study and analyze the argumentation structure of news articles
- Develop a demo website that searches in real time in a perspective-oriented manner
- Argument similarity with sentence compression

### University of Pennsylvania

Fall 2021 – Present

Advisor: Prof. Mark Yatskar

Project: Zero-shot Image Classification with Pre-trained Text Representations

- Pretrain language models on Wikipedia articles and produce text representations as side-information
- Align image and text representations for zero-shot image classification

### Boston University

Spring 2019 – Fall 2020

Advisor: Prof. Derry Wijaya

Projects:

- Detect frames in news headlines and analyze news framing trends surrounding U.S. gun violence
- Capture and transform speaking styles in a low resource setting
- Create multimedia summaries using tweets and videos

### City University of Hong Kong

Advisor: Prof. Junhui Wang

Aug 2019 - Sep 2019

Project: Analyze Chinese law documents and cluster similar case descriptions

## Awards

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Undergraduate Research Opportunity Program Award, Boston University	Fall 2019
Dean's List, College of Arts and Sciences, Boston University	Spring 2020
Dean's List, College of Arts and Sciences, Boston University	Spring 2019
Dean's List, College of Arts and Sciences, Boston University	Spring 2018

## Teaching

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Computational Linguistics (CIS530) at Penn	Teaching Assistant
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## Skills

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Programming Languages: Python, Java, C/C++  
Tools: Huggingface Transformers, Pytorch, nltk, sklearn

## Services

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Reviewers: AAAI 2021 (secondary)