

# HAO(ANDREW) ZOU

2929 University Ave SE, Minneapolis, MN 55414, United States  
zou00080@umn.edu | +1 (631) 809 8931 | [zouhao0418.github.io](https://github.com/zouhao0418)

## EDUCATION

### University of Minnesota, Twin Cities

Minneapolis, US

B.S. Computer Science

GPA 3.829/4.00

Sep.2019 –June 2022

• **Coursework:** Think Deep Learning, Machine Learning: Analysis and Methods, Computer Vision, Foundations of Biomedical NLP, Introduction to Artificial Intelligence, Programming Graphics and Games, Discrete Structures, Statistical Theory and Methods

• **Research Interests:** Natural Language Generation, Question Answering, Causal Analysis in Language Models

## RESEARCH EXPERIENCE

### Causal Analysis in Pre-trained Language Models

[Prof. Dongyeop Kang](#) University of Minnesota, US

Research Assistant, Minnesota NLP Group

Aug.2020 –

- Uncover the mechanisms that underlie model's sensitivity to text confounding bias by leveraging the knowledge of Causal Inference
- Disclose what cause the language models to perform a syntactic generalization behavior from Causal Analysis perspective

### Improving Question Answering by NLG and MT

[Prof. Jordan Boyd-Graber](#) University of Maryland, US

Research Assistant, Computational Linguistics and Information Processing (CLIP)

May.2020 –

- Question Conversion from QuizBowl type to Natural Question like questions by Machine Translation
- Question Generation by leveraging the clues from QuizBowl paragraph through NLG heuristics

### NLP in Social Media

[Prof. Jaideep Srivastava](#) University of Minnesota, US

Research Assistant, Data Management Research Group (DMR)

Oct.2020 –June.2021

- Weakly Supervised Learning in Social Media to extract different target-related topics and eliminate noisy instances as well
- Conducted user-level stance detection for Super Bowl Team Affiliation by semi-supervised framework and extended binary classification by Valence Score
- Made and compared different approaches for Ground Truth Labeling for Political Affiliation on Twitter
- Manually Labelled vocal users (retweeted at five times) in the SuperBowl dataset that have collected

### EEG Signal Analysis by Deep Learning

[Prof. Mujdat Cetin](#) University of Rochester, US

Research Intern, Signal Processing and Information Systems Laboratory (SPIS)

Jun.2020 –Oct.2020

- Implemented LSTM with AutoEncoder model on DEAP dataset for emotional classification
- Implemented parallel CNN and RNN model on DEAP dataset for emotional classification
- Compared different insightful ways for data preprocessing including shuffling and taking the base signal into consideration

### Inter-State Correlation Analysis on The Silk Road Economic Belt and the 21<sup>st</sup>-Century Maritime Silk Road

Wuhan, CHN

Research Assistant, Python

Sep.2018 –Dec.2018

- Collected vector data of national scoring and completed Cluster Analysis with national scoring vector data and visualized results
- Preformed PCA for dimensionality reduction and drew thermal maps for correlation analysis
- Executed in-depth quantitative analysis report combined with macroeconomics and assisted in multi-vector network analysis

## INTERSHIPS & WORK EXPERIENCE

### Zhongda Innovation Valley Inc.

Wuhan, CHN

Quantitative Intern, Python

Sep.2018 –Dec.2018

- Finalized analysis of factor performance by Alphalens and Signaldigger in Python and data processing by Ta-lib and JAQS
- Achieved factor preprocessing, done multi-factor combination and visualization comparison by Python
- Done signal hypothesis by customizing ANN factors and implemented assumptions

### AXA Hong Kong

Hong Kong, CHN

Corporate and Industry Research

Feb.2018 –May. 2018

- Employed decentralized investments to reduce risk and the Markowitz model to calculate optimal industry weights based on historical data
- Conducted Stock Price Prediction using models such as CAPM and WACC; chosen Tencent as Star Price Stock and presented the report
- Involved in marco-economic research, collecting, and sorting global financial news for investment strategy adjustment purposes

## ADDITIONAL INFORMATION & EXTRACURRICULAR ACTIVITIES

**Computer:** Java, Python, C, MySQL, Excel/VBA | Eviews, Gephi, LaTeX, Wind/Bloomberg

**Certifications:** CFA Level I Candidate

**Search Algorithm Workshop in TicTacToe and Puzzle8** (DFS, BFS, A-star and Minimax Alpha-Beta algorithms) (Oct. 2018–Dec. 2018)

Third place at the **2rd Python Machine Learning Strategy** in Chines Institution of Innovation, CII (May. 2018)