

# JUNTONG NI

juntongni02@gmail.com ◇ juntongni.github.io

## Education

### Shandong University

Bachelor of Artificial Intelligence, GPA: 91.96, Rank:3/52

Sep. 2020 – present

Qingdao, Shandong

## Relevant Coursework

- Advanced Math 96
- Linear Algebra 99
- Probability 98
- College Physics 99
- Deep learning 95
- Machine Learning 93
- Information Retrieval 100
- Practices on AI 95

## Research Experience

### iLearn Lab, Shandong University

Research Assistant, supervised by Prof. Liqiang Nie

December 2021 – present

Qingdao, Shandong

- In SDU, I actively researched in the field of multimedia computing, cross-modal information retrieval and debiasing.
- The first work argues the problem of bias in text modalities in the field of multi-modal sentiment analysis. I reproduced results of baselines of multi-modal sentiment analysis task and train them on the OOD datasets built by ourselves to evaluate their generalization ability. In addition, I also did some case studies to evaluate the robust performance of our proposed model. This work was published on the top multimedia conference ACM MM.
- The second work is to study how text in multi-modal emotion recognition assists the learning of audio and video. I participated in the implementation of experiments and the writing of some parts of papers, such as experiments. This work is now submitted to the top multimedia journal IEEE TMM 2022
- The third work is to study the problem of bias in the all three modalities of text, audio and video in the field of multimodal sentiment analysis. I participated in most of the paper writing and experimental implementation work. This work is now submitted to the top conference in the field of information retrieval conference ACM SIGIR 2023.

### University of Science and Technology of China

Research Assistant, supervised by Prof. Fuli Feng

April 2022 – June 2022

Hefei, Anhui

- In USTC, my research interests lie in deep learning based methods for biology and medicine.
- We focus on the problem of predicting neoantigens. To investigate the technical context of neoantigens prediction, I started with pVACtools, a relatively cutting-edge integration tool, and figured out that what we want to develop is a tool that can predict the peptide-HLA binding value and select the appropriate neoantigens. The application scenario of the tool is picking the right neoantigens to fight cancer.
- Then, I used TransPHLA, a peptide-HLA binding prediction method, to conduct some experiments. I found that the distribution of HLAs in the datasets has the problem of long tail, which induces me to develop transfer learning. After training, I fine-tuned the model on the HLAs with small numbers and I employed negative sampling to increase the number of training samples.

## Publications

### General Debiasing for Multimodal Sentiment Analysis.

Teng Sun, **Juntong Ni**, Wenjie Wang, Liqiang Jing, Yichen Zheng, Liqiang Nie. *ACM SIGIR*, 2023.

### Muti-modal Emotion Recognition via Hierarchical Knowledge Distillation.

Teng Sun, Yinwei Wei, **Juntong Ni**, Zixin Liu, Xuemeng Song, Yaowei Wang, Liqiang Nie. *IEEE TMM*, 2022.

### Counterfactual Reasoning for Out-of-distribution Multimodal Sentiment Analysis.

Teng Sun, Wenjie Wang, Liqiang Jing, Yiran Cui, Xuemeng Song, Liqiang Nie. (*participate*) *ACM MM* 2022.

## Projects

### Interactive Visualization of Worldwide ShipWreck | JavaScript, HTML, CSS

December 2022

- Developed an visualization dashboard using JavaScript to achieve interaction between users and the dashboard.
- Implemented Leaflet to provide zoomable, movable map modules.
- Github Url: <https://juntongni.github.io/project/vis/>

## Technical Skills

**Languages:** Python, C++, C, L<sup>A</sup>T<sub>E</sub>X, HTML/CSS, JavaScript, SQL

**Developer Tools:** Linux, GitHub, VS Code, Xcode, Google Colab, Jupyter

**Deep Learning Tools:** Pytorch, Tensorflow

## Extracurricular

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### Dandelion Love Support Education Association

Spring 2021 – Summer 2021

Member

Shandong University

- In the 2021 summer social practice, in order to actively respond to the national strategic plan of “rural revitalization”, we went to Zhenyuan, Guizhou to carry out a week-long high school summer camp teaching support with the theme of “researching the tourism industry and environmental rural revitalization of Guizhou Miao and Dong Autonomous Prefecture” Activity.
- During this trip, ”teaching benefits each other”, I not only taught the children knowledge, the children also made me grow a lot, and gave me a deeper understanding of “rural revitalization”.
- The team was rated as an excellent social practice team of Shandong University and an excellent social practice report of Shandong University. I was awarded an excellent individual for social practice of Shandong University.

### “ShanDong University Cup” Badminton Men’s Doubles Champion

Spring 2022

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### Selected Prize

Zhiyang Scholarship (10 awardees per year in department)

Winter 2022

Huawei Smartbase Scholarship (Only 35 awardees per year in SDU)

Fall 2022

First Class Scholarship (Top 5% student)

Fall 2022

COMAP Mathematical Contest in Modeling (Honorable Mention)

Spring 2022

Asia and Pacific Mathematical Contest in Modeling (Second Prize)

Winter 2021

National University Mathematics Competition (Third Prize)

Winter 2021