

## YINGHAO CAI

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### EDUCATION

Sept. 2020 –  
Jun. 2024

**School of Artificial Intelligence, Southeast University**

Nanjing, China

Major: Artificial Intelligence

- GPA:3.88/4; Average Score: 90.3/100; Rank: 3/94

### EXPERIENCE

In Progress

**Identification of Influential Group in Attributed Graph through Explaining Graph Neural Network**

Nanjing, China

*Leader*

- Analyzed the given problem and designed the research plan to find solutions by modeling the problem as a combinatorial optimization problem
- Adopted the reinforcement learning algorithms and started Python and C++ hybrid programming as expected

2022 – 2023

**Sparse and Low-Rank High-Order Tensor Regression via Parallel Proximal Method**

Nanjing, China

*Member*

- The research paper proposed an efficient algorithm to solve the problem of high-dimensional low-rank tensor regression
- Tested the performance of this algorithm in video classification processing with the UCF101 Dataset and assisted in the refining of the research and the paper

Mar. 2023 –  
Jun. 2023

**Knowledge Engineering Practice: Diabetic Knowledge Graph Construction and Prescription Prediction**

Nanjing, China

*Leader*

- Made the project plan according to team discussions and the strengths of team members and designed the process of knowledge graph construction
- Read a large number of related papers and figured out an algorithm to deal with the thousands of pieces of data on diabetes cases
- Helped the team and other members with data processing tasks such as named entity recognition

Mar. 2023 –  
Jun. 2023

**An Extended Study of Knowledge Neurons: Knowledge Neurons in Multilingual Pretrained Language Models**

Nanjing, China

*Leader*

- Proved the universality of a framework for extracting knowledge neurons presented in the paper *Knowledge Neurons in Pretrained Transformers* and wrote a study report on it
- Designed and conducted experiments independently with multilingual BERT and other multilingual data sets on different language models
- Got familiar with the design and operation of a whole research project and academic paper writing

Sep. 2022 –  
Dec. 2022

**Video Caption Challenge Project**

Nanjing, China

*Leader*

- Extracted the audio and video feature vectors from the given videos with FFmpeg and other models and then used S2Vmodel to generate the tags and form the video caption
- Deepened my understanding of the practical application of deep learning technology and strengthened my skills in using learned knowledge to solve real problems

Mar. 2022 –  
Jun. 2022

**Image Segmentation of ARDS Patients' Lung Lesion Area**

Nanjing, China

*Member*

- Adopted F3Net in our design and tested and improved the model through ablation study to realize improving the accuracy of image segmentation of lesion region
- Explored the application of image processing in the medical field

Jul. 2022 –  
Aug. 2022

**Tutor Recommendation System Development**

Nanjing, China

*Leader*

- Built a website to realize the function of recommending graduation design tutors to undergraduate students, including collecting tutors' information with a web crawler, building the back-end database, designing the front-end interface and search recommendation algorithm, as well as connecting the front and back ends
- Enriched my knowledge of web building and design; self-learned different frameworks like HTML, CSS, JavaScript, and Vue

2021 – 2022

**Superpixel Segmentation Task based on Deep Clustering**

Nanjing, China

*Leader*

- Adopted and compared two methods (DEC and SENet) to realize the superpixel segmentation; did a lot of research and improvements and presented a report
- Learned from scratch how to design a study project, and how to adjust the research method in time and give clear and logical reports

## **AWARDS**

2020 – 2021

**China National Scholarship**, National Scholarship Review Committee

2020 – 2021

**Merit Student**, Southeast University

2021 – 2022

**Excellence in Social Practice Award**, Southeast University

## **PERSONAL**

**Language Skills:** English: Advanced

**Software Skills:** Python, C++, Matlab; Linux; CSS, HTML, Javascript; Protégé, Neo4j