

# Tianyin Wang

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## EDUCATION

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### South China University of Technology (SCUT)

*Aug. 2019 - Jul. 2023*

Major in Computer Science, School of Computer Science & Engineering

Overall GPA: 3.96/4.0;    Ranking: 3/170

- Main Modules: Data Structures, Computer Organization&Architecture, Operating System, Computer Network, Database System, Design and Analysis of Algorithm, Neural Networks and Deep Learning, Artificial Intelligence

## HONOR & AWARDS

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### Scholarship

The Second Class Scholarship, SCUT

*Oct. 2021*

Chien-Chung Tsai Third Class Scholarship, SCUT

*Oct. 2020*

Science And Innovation Third Class Scholarship, SCUT

*Sep. 2020*

### Awards

Finalist in the 2021 Mathematical Contest in Modeling

*Apr. 2021*

Second Price in Contemporary Undergraduate Mathematical Contest in Modeling

*Nov. 2021*

## RESEARCH EXPERIENCE

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### Unsupervise Relation Extraction | SCUT

*Aug. 2021- Present*

Advisor: Ziqian Zeng, Assistant Professor at SHIEN-MING WU School of Intelligent Engineering, SCUT

- Task: given a sentence, its subject and object then extract the relation between them in a zero-shot manner
- Used pre-trained textual entailment model to get pseudo label
- Proposed novel approaches to exploit top2 prediction and to fine-tune MNLI model
- Performance enhanced

## SELECTED PROJECTS

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### Neural Network Formula Recognition | SCUT

*Nov. 2021- Dec. 2021*

Advisor: Qianli Ma, professor and doctoral supervisor at School of Computer Science & Engineering, SCUT

- Task: Given images of mathematical formula then output their representations in LaTeX
- Used ResNet as encoder and a Transformer as decoder to build a network. Used Teacher Forcing to train
- Used Mask Language Model as a method to pretrain the model, ExactMatch improved 1.93%
- EditDistance reached 95.88% and ExactMatch reached 88.04%
- Used Fastapi and Streamlit to build user interface and web service

### Auto Image Classification Project | SCUT

*Nov. 2021- Dec. 2021*

Advisor: Xingling Zhang, associate professor at School of Computer Science & Engineering, SCUT

- Topic: Combination of web scraper and deep learning
- Input the categories that need to be classified, then related samples will be scraped from Bing and then

be used to train a classifier based on ResNet

- Web service deployment base on flask and Nginx

### **Online Shopping Mall Project | SCUT**

*Aug. 2021- Sep. 2021*

Advisor: Shehui Bu, professor at School of Computer Science & Engineering, SCUT

- Task: Built an online shopping mall for customers, merchants
- Goods information can be easily updated, customers and merchants can be informed timely
- Used Springboot to build Web application and used Vue to build user interface

### **ACTIVITIES**

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Internet Technology Center | member

*Nov. 2019 - Nov. 2020*

- Develop Web Applications. e.g. Applications for online quizzes
- Maintain Official website of the department

### **SKILLS**

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- **Language:** English (TOEFL total 92), Chinese (native), Cantonese (native)
- **Programming Languages:** C++, Python, Java, HTML, JS
- **Frameworks:** Pytorch, flask, transformers, Springboot, Vue