

Liangyu Nie

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EDUCATION

- **University of Birmingham** Birmingham, UK
Master of Science in Advanced Computer Science *Sept.2022 – June.2023(Expected)*
- **Royal Melbourne Institute of Technology University** Melbourne, Australia
Bachelor of Computer Science, GPA: 3.9/4.0 *Mar. 2019 – Dec. 2021*

PUBLICATIONS

Does model understand what they learn?

Liangy Nie, Wenpeng Yin

EACL2023 under-review

Robustness of Learning from Task Instructions

Jiasheng Gu, Hanzi Xu, LiangyuNie, Wenpeng Yin

EACL2023 under-review

Question answering algorithm based on deep learning

LiangyuNie, Jiatong Ye

EITCE2021

PROJECTS

- **STS-benchmark:** Semantic Textual Similarity task
 - Ensembled eight models(bert-base-uncased, robert-base, deberta-base, stsbmpnet-base, stsb-roberta-base, stsb-roberta-large, bert-baseuncased-stsb, stsb-distilroberta-base) to finish the task
 - Get 0.9309 as the result, SOTA of this task was 0.929 by SMART-ROBERTA-Large
- **Kg-CLUE:** Large-scale Chinese open source knowledge graph question and answer benchmark
 - Use BERT and Roberta build baseline NER+SIM pipeline
 - Create judgement for kgCLUE(EM, F1 score)
- **Lipstick Finder:** A lipstick recommendation system
 - Develop an app use three algorithms(Recognition, Makeup, Recommendation) to find a mouth of user and let user makeup the lipstick virtually, get a recommendation for a user
- **Multi-model physiological signal emotion recognition:** Multi-model emotion recognition system
 - Use DEAP to train a model to recognize emotion
 - Transform EEG(1D signal) to 2D matrix
 - Use 2dCNN to extract spatial information
 - LSTM extract time-domain
- **Multi-modal dialogue:** A multimodal dialogue system based on JD dataset
 - Designed a Multimodal Hierarchical model
 - Added attention layer into MHRED model
- **Netflix Movie Recommendation System:** A recommendation system based on Netflix Prize dataset
 - Predict the rating that a user would give to a movie that he has not yet rated. Minimize the difference between predicted and actual rating (RMSE and MAPE)
- **AI tutor:** A online website teach English in speaking, listening, reading and writing also teach dancing and singing
 - Designed an online AI tutor, which can teach student English in Speaking, Listening, Reading and Writing, also teach dancing and singing.
 - Developed the website's front-end using Vue.js.
 - Used CNN for English speaking listening and reading also used RNN for writing.
 - Utilised LSTM to fix the long-term dependency problem.
 - Applied openpose to identify the dance action.

- **Flapper Bird Using Reinforcement-Learning:** a flappy bird game using C++ and reinforcement-learning with Deep-Q learning
 - Developed a flappy bird game using C++ and reinforcement-learning with Deep-Q learning algorithm to train the bird play this game.
- **Computer Remoter:** A app to control the computer to enter the keyboard and mouse
 - Used OpenCV to identify the finger's action and numbers that the user wants.
 - Combined with two usual individual cameras and compared their performance, choosing the binocular camera because of the better results

WORK&RESEARCH EXPERIENCE

- **Hong Kong University of Science and Technology** Hongkong SAR, China
Research Assistant *June.2022 – October.2022*
 - Researching in personal chatbot under Prof.Kani CHEN
- **Shanghai Jiaotong University** Shanghai, China
Teaching Assistant *June.2022 – July.2022*
 - Teaching Algorithm and data science course with Prof.Xiangdong An
- **Temple University** Philadelphia, US
Research Intern *Apr.2022 – present*
 - Researching in NLP instruction under Prof.Wenpeng Yin
- **College of William & Mary** Virginia, US
Research Intern *Mar.2022 – Oct.2022*
 - Researching in Memory Based Continual Learning under Prof.Huajie Shao
- **DTU System** Shenzhen, China
System Engineer intern *Sept.2021 – Dec.2021*
 - Participate in the development of robotic systems
 - Responsible for the development of robot information feedback