Zhuohua HUANG

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EDUCATION

School of Computer Science & Engineering, South China University of Technology Guangzhou, CN
Major in Computer Science, **Overall GPA: 3.77/4.0** *Aug. 2019 - Jul. 2023*

Finished courses for freshman and sophomore in one year after changing major from automation engineering

- Advanced Courses include: Mathematical Analysis for Engineering (score: 90), Probability & Statistics (score: 99), Linear Algebra and Analytic Geometry (score: 86), Neural Networks and Deep Learning (score: 95), Artificial Intelligence (score: 88), Python (score: 96)

RESEARCH EXPERIENCE

Neural Network Formula Recognition | South China University of Technology *Aug. 2021- Jan. 2022*

Advisor: Qianli Ma, professor and doctoral supervisor at School of Computer Science & Engineering, South China University of Technology

- Given images of mathematical and biological formula and outputted their representations in LaTeX
- Used ResNet as encoder and a Transformer as decoder to recognize two subjects at the same time
- Processed image data in a series of fixed proportions to improve the exact match rate and found the appropriate batchsize range
- EditDistance reached 96.023% and ExactMatch reached 86.520% on the test set

Knowledge Distillation via Reinforce learning | Research Assistant *Jan. 2022- Present*

Advisor: Yuejiao Gong, professor at School of Computer Science & Engineering, South China University of Technology

- Improved the effect and speed of knowledge distillation
- Integrated multi-teacher models' outputs to assist student model in training process via reinforce learning
- Implemented main algorithms and tested on different data sets

PROJECT EXPERIENCE

Couple Matching on Campus | South China University of Technology *Jun. 2021- Oct. 2021*

Party A: SCUT Know All

- Given a list of men and women's personal information and expectations of their partner, found the best matching result
- Broken down the information into several parts to get the score valuing matching effect for each person, and used a matching algorithm to maximize the overall matching effect
- Used bert-base-chinese to turn the text into a vector, used the distance of the vector to measure the matching results, and summed the results of multiple information with appropriate weights to obtain the matrix of all matching results. Finally, Hungarian algorithm is used to get the best match
- Calculated the result, which met the requirements of Party A, costing 25 min on average with data set including 253 info

Face Recognition Project | South China University of Technology *Jul. 2021- Dec. 2021*

Advisor: Guihua Wen, professor and doctoral supervisor at School of Computer Science & Engineering, South China University of Technology

- Compressed the image and circled the face
- Build encoder for feature extraction
- Integrated projects and designed UI for application

Image Captioning Project | South China University of Technology *Aug. 2021- Sep. 2021*

Advisor: Qianli Ma, professor and doctoral supervisor at School of Computer Science & Engineering, South China University of Technology

- Build encoder for feature extraction
- Using LSTM to describe the pictures in words

Online Shopping Mall Project | South China University of Technology *Aug. 2021- Sep. 2021*

Advisor: Qianli Ma, professor and doctoral supervisor at School of Computer Science & Engineering, South China University of Technology

- Built an online shopping mall for customers, merchants and administrators
- When delivering goods, the customer's email can receive the delivery information
- Used Spring-Vue to build the whole website, and finally deployed to the server

LEADERSHIP AND ACTIVITIES

S.K. Crew | Minister of Publicity Department *Dec. 2021 - Present*

- Planed and organized department recruitment publicity
- Organized the design of posters and tickets for the annual dance exhibition

SKILLS

- Solid computer science experiment skills
- **Language ability:** English (fluent), Chinese (native), Teochew (native)
- **Programming Languages:** C/C++, Python, Java, HTML, JS Office Applications: Microsoft Office, Photoshop, Auto CAD