Huang Tinglin

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Technique sharing: zhihu
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EDUCATION

MEng in Zhejiang University, Software Engineering   Sep. 2019 - Present

English：CET4 (526), CET6 (468)

Programing skill: Python, C/C++, PyTorch, Keras

BEng in Shenzhen University, Software Engineering, with honor   Sep. 2015 - Jun. 2019

GPA：3.95   Rank：top 5%

AWARDS

Excellent graduates of Shenzhen University   Jun. 2019

Chinese Undergraduate Mathematics Contest in Modeling (national second prize)   Jul. 2018

Chinese Undergraduate Computer Design Contest (national third prize)   Sep. 2017

PUBLICATIONS

[1] **Huang T.**, He Y., Dai D., Wang W., Huang J.Z. (2019) Neural Network-Based Deep Encoding for Mixed-Attribute Data Classification. In: U. L., Lauw H. (eds) Trends and Applications in Knowledge Discovery and Data Mining. PAKDD 2019.

[2] Zhu Y., Tong M., **Huang T.**, Wen Z., Tian Q. (2018) Learning Affective Features Based on VIP for Video Affective Content Analysis. In: Hong R., Cheng WH., Yamasaki T., Wang M., Ngo CW. (eds) Advances in Multimedia Information Processing. PCM 2018.

EXPERIENCE

DiDi Inc.   Hangzhou

Machine Learning Intern   Nov. 2019 - Present

➢ Our team's main work is to design the recommendation ranking system for a loan app called Dishuidai. Specifically, the algorithm recommends the appropriate funder for each user who applies for a loan.

➢ I researched the application of reinforcement learning (RL) to recommendation system in the team. During work, based on the duelingDQN + doubleDQN model, I combined the business scenario to make some improvements to the model (reward reshaping and training process). We have now launched the model and continue to observe it online.

➢ In the first week, compared with the baseline, the loan per user of our new model is greatly improved (10.15%).

National Engineering Laboratory for Big Data System Computing Technology   Shenzhen

Student Researcher Assistant   May. 2017 - May. 2019

➢ Advised by Prof. Joshua Zhexue Huang, I mastered how to apply Machine Learning to big data analysis, and assist in some research projects.

➢ Trying to provide data preprocessing technologies like auto-encoder for handling discrete value attributes. To solve the problem of sparse space caused by one hot approach, we usually transform discrete features into embedding. While working as a research assistant, we proposed an auto-encoder with a new loss function which is obtained by adding the original loss function and weighted entropy.

➢ The experimental results prove the effectiveness of the algorithm (accuracy is improved by 2%-3%), and the paper has been included in a workshop of the conference PAKDD-2019.

《RIAP: A method for Effective Receptive Field Rectification》   Shenzhen

➢ The paper discusses the phenomenon that the effective receptive field of the convolutional neural network (CNN) is normally distributed.

➢ In order to solve this problem, the paper proposes to retransmit the marginal sparse edge information (RIAP) in an augmented path and make the effective receptive field of the normal distribution uniform. In simple terms, the process of forward propagation is seen as the transfer between nodes and nodes. The information at the edges is retransmitted by adjusting the number of zero-paddings per layer.

➢ We designed a number of experiments. Firstly, we verified that the algorithm can effectively solve the problem caused by the receptive field with normal distribution. Secondly, the RIAP is applied to the classification problem, and the accuracy is effectively improved by 1%-2%. This paper is expected to submit to ECCV2020.