YIFAN DENG

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EDUCATION

Wuhan University, Wuhan *Sept. 2017 - Present*
Undergraduate in Electronic Engineering
GPA 3.76/4 Ranking top 10%
Major Courses: Microprocessor 95 Digital System Design 95 Analog Circuit 1/2 90/92
Linear Algebra 100 Electromagnetic Field Theory 93 Data Structure and Algorithms 92
C-Programming 94 OOP in JAVA 90 C++ 91 Database programming 93

PUBLICATION

1.**Deng Y**, Xu X, Qiu Y, et al. A multimodal deep learning framework for predicting drug-drug interaction events[J]. Bioinformatics, 2020.
2.Corresponding author, Enhancing drug-drug interaction prediction using deep attention neural networks. Submitted to *IEEE/ACM Transactions on Computational Biology and Bioinformatics*
3.Co-author, MKPOCR: A Multi-Kernel Embedding Clustering Method for Detection of Cell Types from scRNA-seq Data. Submitted to *BMC Genomics*

EXPERIENCE

DDI events prediction based on Knowledge Graph and Few Shot Learning *Feb. 2020 - Present*
Embedding from large-scale KG contain much information about entities. And FSL can be applied to deal with the imbalanced data.

- Construct KG and learn the biological entities embedding from KG.
- Improved the deep learning models performance on rare events through FSL.

Predicting drug-drug interactions(DDIS) with multimodal deep learning *Apr. 2019 - Nov. 2019*
Potential DDIs may bring unknown adverse drug reactions so it is meaningful to predict them.

- Collected data from website like Drugbank to create a dataset and stored it in SQL database
- Improved the AUPR from 0.8732 to 0.9208 with multimodal learning

Research on Adversarial Examples *Apr. 2018 - May. 2019*
Classifiers may misclassify some pictures which are corrupted with noises (called adversarial examples) and it brings security problems to AI. We had research on these examples and tried to alleviate this phenomenon.

- Read papers and had reports at group meetings, introduced an algorithm to our work
- Converted white-box attack to black-box to participate in NeurIPS2018 adversarial attack challenge

SKILLS

Programming languages: Proficient in Python, Swift. Familiar with C++, JAVA, MATLAB.
Interests: Data mining, Bioinformatics, iOS developing

HONORS AND AWARDS

Scholarship
Second Class Sholarship(Top 10% in undergraduate of Wuhan University) *Sept.2019*
Huang Zhangren Scholarship (Top 3% in undergraduate) *Dec.2018*
First Class Sholarship(Top 5% in undergraduate) *Sept.2018*
Award
Silver Medal in China Collegiate Programming Contest (Hubei Area) *May.2018*