**YUXUAN WU**

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**EDUCATION Carnegie Mellon University - School of Computer Science** Pittsburgh, PA

*Master of Science in Computational Biology* Aug 2021 – May 2023

Courseworks: Algorithms and Data Structures, Statistics, Computational Medicine, Programming for Scientists

**Xi’an Jiaotong-Liverpool University** Suzhou, China

*Bachelor of Science in Bioinformatics |* GPA: 3.88/4.0 (Top 5%) Sep 2017 - Jun 2021

Honors: University Academic Achievement Award of 2017-2018 (Top10%); Silver Award in iGEM competition 2018

Coursework: Java Programming, Artificial Intelligence, Databases Design, Big Data Analysis, Data Mining, Web Development

**TECHNICAL SKILLS**

**Programming language:** Java, Python, R , C#, HTML/CSS/JavaScript, Matlab

**Frameworks & Tools:** Tensorflow, MySQL, Bootstrap, Hadoop, Ubuntu, Docker, Git

**PROFESSIONAL EXPERIENCE**

**Bosch Automotive Products (Suzhou) |** Full-stack developer | *C#, SQL, JavaScript, Bootstrap, Ajax, jQuery*

* Developed a web platform to report and handle the problems about machine downtime Mar 2021- May 2021
* Achieved the real-time data interaction between the web page and Oracle database based on MVC design pattern
* Independently utilized Bootstrap to enhance the user interface; Applied ajax and jQuery to transfer information asynchronously

**RESEARCHES & PROJECTS**

**WeakRM: Viral m6A weakly supervised learning of RNA modification |** *Python, R, Bash* Sep 2020 - May 2021

* Incorporated both sequence-derived and structure-derived features by one-hot encoding methods
* Built a multi-instance learning with gated attention mechanism model which could maximize the feature utilization efficiency
* Achieved state-of-the-art performance (average Accuracy:0.751) and maintained steady performance in generalization ability test

**Kaggle: data analysis projects |** *Python, R |* [*https://www.kaggle.com/yuxuanwu17/code*](https://www.kaggle.com/yuxuanwu17/code)Sep 2020 - Jan 2021

* Detected the existing heart failure disease globally and optimized the SVM-based model to achieve average accuracy in 0.833
* Independently visualized and analyzed avocado price patterns from 2015 to 2020 in the United States by ggplot2

**Hadoop-based big data analysis |** *Java, Maven* |[*https://github.com/yuxuanwu17/Hadoop\_cw2*](https://github.com/yuxuanwu17/Hadoop_cw2)Sep 2020 - Jan 2021

* Configured the Hadoop environment in Ubuntu on the cloud server, Mac environment and Maven
* Learned the mechanisms about Map and Reduce and finished the word analysis in the Hadoop framework

**Predicting** **m6A Reader Sites based on Deep Learning Model |** *Python* Mar 2020 - Sep 2020

* Compared the performance between SVM, CNN and CNN+RNN frameworks in predicting m6A Reader in Keras
* Quantified each nucleotide contribution by layer-wise relevance calculation with overall high performance (average Accuracy: 0.868)

**m6A Reader: Epitranscriptome target prediction and functional characterization |** *R*Jun 2019 - Feb 2020

* Collaboratively built and evaluated multiple machine learning models (SVM, LR, RF and XGBoost) on sequence & genome data
* Achieved high performance in SVM (average Accuracy: 0.947) in predicting the m6A Reader substrates

**PUBLICATIONS**

* Zhen, D., **Wu, Y.**, Zhang, Y…(2020). [m6A Reader: Epitranscriptome Target Prediction and Functional Characterization of N6-Methyladenosine (m6A) Readers](https://www.frontiersin.org/articles/10.3389/fcell.2020.00741/full), *Frontiers in Cell and Developmental Biology*, DOI: 10.3389/fcell.2020.00741 **(IF:5.201)**
* **Wu, Y.**, Zhang, Y., Wang, R…. (2021). [Prediction of m6A Reader substrate sites using deep convolutional and recurrent neural network](https://dl.acm.org/doi/abs/10.1145/3469678.3469706), *BIBE 2021*, DOI: https://doi.org/10.1145/3469678.3469706