

Jiawei Zhang

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EDUCATION

CIVIL AVIATION UNIVERSITY OF CHINA

Faculty of Economics and Management, Bachelor of Business Administration

GPA: 3.67/4.0 (85.4/100)

Tianjin, China

Sep. 2016 – Jul. 2020

Key courses: Advanced Mathematics/92 (89+95); Probability-and-Statistics/80; Business Statistics and Forecasting/89

PUBLICATION

Jiawei Zhang, Wang Ma, Hui Yao, "Accurate TCR-pMHC interaction prediction using a BERT-based transfer learning method", Briefings in Bioinformatics, Volume 25, Issue 1, January 2024, bbad436 (IF=6.8/Q1)

Wang Ma, **Jiawei Zhang**, Hui Yao. "NeoMUST: an accurate and efficient multi-task learning model for neoantigen presentation" Life Science Alliance Jan 2024, 7 (4) e202302255 (IF=3.3/Q1)

RESEARCH EXPERIENCES

DEVELOP AN LLM-BASED BIOLOGICAL AGENT

Westlake University Hangzhou, China

Research Assistant

May. 2024 – Present

- Project content: Design and develop an LLM-based agent system that automatically executes corresponding AI models and bioinformatic tools based on the user's needs.
- Main responsibilities: Construct the agent framework; Deploy some of the deep learning models

DEVELOP COLABSAPROT AND SAPROTHUB

Westlake University Hangzhou, China

Research Assistant

Apr. 2024 – Aug. 2024

- Project content: Develop ColabSaprot and SaprotHub to support scientific research, allowing biologists to easily train and use Protein Language Models. SaprotHub is widely used for protein-related tasks, with wet lab experiments validating its results.
- Main responsibilities: Test and optimize the function of ColabSaprot; Assist in building ColabSaprot and SaprotHub
- Completed a paper as the OPMC author: "SaprotHub: Making Protein Modeling Accessible to All Biologists". (Under Review at **Nature Methods**)
- Open-source address: <https://github.com/westlake-repl/SaprotHub>

RESEARCH AN LLM-BASED WEB3 AGENT

The Hong Kong University of Science and Technology, China

Research Assistant (Remote)

Apr. 2024 – Sep. 2024

- Project content: Design an agent that can decompose user requirements and then select and execute the appropriate tool for each step of the task.
- Main responsibilities: Design the agent framework; Investigate appropriate fine-tuning algorithms

WORK EXPERIENCES

PREDICT TCR-PMHC BINDING USING DEEP LEARNING

Fresh Wind Biotechnologies Inc. Tianjin, China

Apr. 2022 – Apr. 2024

Assistant Bioinformatics R&D Engineer

- Project content: Predict the binding of TCR peptide-MHC-1 complexes by BERT-based deep learning model with transfer learning.
- Main responsibilities: Data collection and organization; Modification of model structure; Code writing and GitHub repository creation; Model training and testing; Writing of the paper
- Results: Completed paper as the first author: "Accurate TCR-pMHC Interaction Prediction Using a BERT-based Transfer Learning Method". (Published in ***Briefings in Bioinformatics***)
- Open-source address: <https://github.com/Freshwind-Bioinformatics/TABR-BERT>

IDENTIFY NEOANTIGENS USING DEEP LEARNING

Fresh Wind Biotechnologies Inc. Tianjin, China

Apr. 2022 – Apr. 2024

Assistant Bioinformatics R&D Engineer

- Project content: Accurate identification of neoantigens by multi-task learning architecture with LSTM as the feature extractor.
- Main responsibilities: Data collection and organization; Assist in GitHub repository creation; Assist in model testing; Assist in writing of the paper
- Results: Completed paper as the second author: "Neo-MUST: an Accurate and Efficient Multi-Task Learning Model for Neoantigen Presentation". (Published in ***Life Science Alliance***)
- Open-source address: <https://github.com/Freshwind-Bioinformatics/NeoMUST>

AWARD & ACTIVITY

2017-2018 Renmin Third-Class Scholarship
National Innovation and Entrepreneurship Project / Team member
Director of the Communication Club of the Student Union of the University
Undergraduate class monitor
School Library, Kindergarten Outstanding Volunteer
Summer Social Practice Advanced Individual

SKILLS AND OTHERS

Skills: Python, Linux, Docker, R

Interest: Photography , Reading 