Curriculum Vitae

Personal

Name: David (Dawei) Wong
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Address: No. 16 Zhixin Road, Haidian District, Beijing, China
Nationality: People's Republic of China
Date of Birth: January 26, 1996

Education

2024-Present **B.S. in Computer Science and Technology (part-time, online delivery), Expected graduation: Jul 2026**
School of Continuing Education, Sichuan University
Main Courses: Linear Algebra, Probability and Statistics, C Programming, Assembly Language Programming, Analog Electronics Technology, Digital Electronics Technology, Object-Oriented Programming, Database Technology, Data Structures, Operating Systems, Computer Networks, Web Technology

2020-2023 **M.S. by Research in Immunology**
School of Basic Medical Sciences, Peking University Health Science Center
Focus areas: cancer bioinformatics
Specialized skills: single cell analysis, transcriptome analysis and biomedical modeling

2015-2020 **B.S. in Preventive Medicine**
School of Public Health, Xiamen University
Cumulative GPA: 3.4/4.0 Major Rank: 3/47
Main courses:

Basic Courses	Clinical Courses	Preventive Medicine Courses
Calculus IV (96)	Internal Medicine (90)	Health Statistics (87)
Basic C Programming (98)	Surgery (84)	Epidemiology (88)
College Physics C (90)	Obstetrics and Gynaecology B (92)	Toxicology Foundation (91)
Organic Chemistry B (93)	Pediatrics B (97)	Social Medicine (90)

Publication

- *Immune micro-environment analysis and establishment of response prediction model for PD-1 blockade immunotherapy in glioblastoma based on transcriptome deconvolution.*
  ***Wong D**, Yin Y.*
  J Cancer Res Clin Oncol. 2023.

Research Experiences

2021-2023 **Micro-environment analysis and establishment of response prediction model for PD-1 blockade therapy in glioblastoma based on transcriptome deconvolution**

*Position: **Leading researcher**, Supervisor: Associate Prof Yuan Zhou and Prof Yanhui Yin*

- Analyzed composition and expression characteristics of different types of cells in the micro-environment of glioblastoma related to response to PD-1 inhibitors on the basis of deconvolution of a bulk RNA-seq profile taking single cell analysis based transcriptome map as reference.
- Constructed a response prediction model for PD-1 inhibitors based on transcriptome expression of key genes of immune cells in the micro-environment, which was proved to be high-performing and showed potential clinical value.
- Investigated relations of protein expression of the key prediction gene LRRFIP1 with the density of tumor-infiltrating immune cells by combining IHC and mIHC.

2020-2021 **Preparation of neoantigen-based DC vaccines and preliminary exploration of its anti-tumor effects**
Position: Research Assistant, Supervisor: Prof Yanhui Yin

- Analyzed multiple gene point mutations of tumor tissue from melanoma mouse models before and after DC vaccine treatment by DNA sequencing following PCR amplification.

Honors and Awards

2021, 2022, 2023: National Academic Scholarship
2017, 2019, 2020: Xiamen University Undergraduate Scholarship for Academic Excellence, First Prize
2019, 2020: Xiamen University Undergraduate Scholarship for Academic Innovation

Employment History

2023.9-2024.4 **Medical Data Engineer at Yidu Cloud (Beijing) Technology Co., Ltd.**

- Undertook preprocessing, classification, and annotation of training data for large language models, as well as engaged in model testing and optimization based on specialized medical knowledge and clinical experience.

2023.9-Present **Bioinformatics Engineer at Drug Research Center of Youcare Pharmaceutical Group Co., Ltd.**

- Undertaking TCGA and COSMIC genomic data mining to screen for potential tumor-specific antigens in the project of colorectal cancer peptide vaccine development; utilizing existing software and AI models to predict peptide structures and perform molecular docking; contributing to the development of multimodal deep learning models for predicting peptide-receptor binding activity; maintaining and managing high-performance servers.

Internship History

2019.9-2019.12 **Intern at Xiamen City Center for Disease Control and Prevention**

- Participated in the supervision of public health in diverse settings, and collaborated in epidemiological analysis on local infectious and chronic diseases, providing insights into their prevalence and transmission patterns.

2018.6-2018.10 **Intern at The First Affiliated Hospital of Xiamen University**

- Rotated through eight clinical departments and assisted doctors in diagnosing, treating, and providing compassionate care to patients, while also achieving proficiency in fundamental clinical skills.

Professional Skills and Strengths

- Programming languages: C, Python, R.
- Professional software: Pytorch, Git, Pymol, Seurat, Monocle, WGCNA, 3ds Max, etc.
- Experienced in transcriptome data (RNA-seq, scRNA-seq, Microarray) processing and analysis, TCGA/GEO data mining and supervised machine learning
- Familiar with Linux/Bash, MLP, CNN, RNN (learning other DL models).
- Molecular biology techniques: PCR, WB, electrophoresis, ELISA, DNA/RNA extraction, plasmid construction, IHC, etc.
- My greatest strength lies in my pursuit of continuous learning and my receptive mind towards knowledge across diverse disciplines.