Zhiwen Yan

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EDUCATION

Zhejiang University-University of Edinburgh Institute (ZJE), Haining   2018-present
Dual BSc (Hons) Biomedical Informatics
- Overall GPA: 3.93/4
- Course highlights: Genomics and Proteomics (90/100), Introduction to Biomedical Informatics (89/100), Database and Software Technology (85/100)

Yale University, CT   2021.07-2021.08
- Attended a summer session (online), course: MATH 120: Multi-variable calculus (A-)

Online Courses with Certification
UTAustinX, UT.5.05x:Linear Algebra-Foundations to Frontiers
MITx, 18.6501x:Fundamentals of Statiticcs

RESEARCH EXPERIENCE

A study on the effect of gene mutation on ribonucleotide concentration in two environments   2020.11-Present
Project Leader, Supervisor Prof. Xianghua Li
- Clarified the mechanism of gene mutation on mRNA at different transcriptional levels using supervised learning
- Developed a mathematical model capable of predicting the influence of gene mutation

WES analysis of pedigree mutation in chronic mucocutaneous candidiasis and connective tissue disorder   2021.07
Student Researcher, Supervisor Prof. Chen Li
- Coded WES pipeline for the laboratory and shared it as open source on GitHub
  GitHub URL: https://github.com/Yanzhiwen001
- Verified a familial mutation for chronic mucocutaneous candidiasis reported in previous studies

A study of the correlation between mina53 and p53 downstream genes from clinical samples   2020.06-2020.09
Student Researcher, Supervisor: Prof. Wen Yi
- Measured the expression of Mina53-associated p53 downstream genes in Mina53 knockdown cell lines
- Verified that the experiment data were consistent with the previous clinical data in the TCGA database

Whole genome screening for neuron degeneration on C. elegans   2019.06-2019.09
Student Researcher, Supervisor: Prof. Wei Zou
- Applied reversed genetics screening in C. elegans by RNAi for genes associated with dendritic and axon degeneration

SKILLS

I.T.: Python, R and R Studio, Java, sql and MySQL, Linux and ImageJ
Cellular and Molecular Biology: Mammalian cell culture, transfection, qRT-PCR, western blotting, DNA or RNA extraction, transcriptional reporter assays

COURSE PROJECTS

Developing a precise medicine matching website   2019.12-2020.05
- Set up the website backend and the connection with the drug database
- Developed a user-friendly interface for accurate drug inquiry

Image segmentation on neuron structure from electron microscopic using U-net   2020.11-2021.01
- Trained and optimized a convolutional neural network
- Achieved an segmentation accuracy of 90% on the ISBI Challenge 2012 dataset

Cellular automaton and its application in ant trail   2021.03-2021.05
- Developed a cellular automaton algorithm to emulate ant's foraging behavior

ACTIVITIES

Vice President, Zhejiang University International Campus Astronomy Club   2019.09-2020.12
Team Leader, Volunteer Teaching in Guizhou Poverty Areas, China   2019.08
Participant, Tsinghua-Peking McGovern, CLS CIBR Summer Program in Neurology and Cognitive Sciences   2019.07