

Zheyang Xu

09/08/1998

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EDUCATION BACKGROUND

Sep/2016~Jun/2021 **Harbin Medical University (HMU)**, Harbin, China
School of Bioinformatics Science & Technology
BS in Biotechnology
GPA: 3.16

RESEARCH EXPERIENCE

Oct/2020~May/2021 **Based on multi-omics data of glioblastoma to analyze sub-pathways influenced by drugs, HMU**

Instructor, vice professor: Chunlong Zhang

- Downloaded HGCC data and processed by R and Perl
- Collected the basic data information of candidate drugs from DrugBank and PubChem
- Conducted a variation analysis of multi-omics data in terms of the resistance or sensitivity of drugs, and confirmed each candidate drug's relevance to the gene set of interest
- Gave ranked hypergeometric test to the gene set obtained from Subpathway Miner developed by R, and got the sub-pathway of every drug
- Constructed the drug-subpathway network of GBM by Cytoscape based on the drug-subpathway relation matrix
- Reconstruction of the drug-drug subnet and subpathway-subpathway subnet
- Based on the SYNERGxDB to analyze the drug association relationship and identified 9 verified synergistic drug combinations
- Unearthed 4 subpathway markers related to the prognosis of GBM

Apr/2019~Jul/2019 **Exploration on the Prognostic Biomarker of Pancreatic Cancer, HMU**

Instructor, vice professor: Chunlong Zhang

- Downloaded TCGA data of pancreatic cancer and clinical information of patients and gained normalized protein data by R and Perl
- Constructed PPI genetic interaction network by Cytoscape
- Obtained differential genes through the methods of difference analysis, hypergeometric analysis, univariate and multivariate Cox regression analysis, and stochastic disturbance etc.
- Screened out the key signature with statistical significance and displayed the results by Illustrator

- Sep/2018~Oct/2018 **Dynamic Index Updates of Moving Taxi**, Chinese Academy of Sciences, China
Research assistant, advisor: researcher Shuo Wang
- Built grid index module to locate taxis and their moving coordinates by the spatial index technique
 - Built grid query module to search for the nearest taxi based on the nearest neighbor query technique.
 - Completed an Android taxi-hailing app for Beijing residents.

INTERNSHIP EXPERIENCE

- 07/01~07/26/2019 **Sincere Pharmaceutical Company**, Nanjing, China
Data Analyst, Department of Biological Information
- Studied how to use GIV score to estimate the oxidative DNA damage of given samples
 - Split-mapped reads of original BAM files by Perl and compared illumina paired-end sequencing by BWA-MEM
 - Made damage estimation and calculated all the replaced mutation rate based on Linux and Perl
 - Plotted the damage results by ggplot2 package of R

EXTRACURRICULAR ACTIVITY

- 09/2016~12/2017 Chief of the Secretary Department, **Theoretical Center**, HMU, China
03/2017~05/2017 Club Member, **ICUC English Club**, HMU, China
03/2017~05/2017 Member, **Youth Volunteers Association**, HMU, China

HONOR

- 05/2019 **Certificate of Achievement Successful Participant** in Mathematical Contest In Modeling, COMAP
12/2018 **Provincial First Prize of Heilongjiang Division** in “HEP Cup” National University Students Mathematical Modeling Contest, CSIAM
06/2018 **2017-2018 1st Semester Second-class Scholarship** (Top 15%), HMU
05/2017 **2016-2017 1st Semester Student Leader Scholarship** (Top 10%), HMU
05/2017 **Third Prize** in ICUC English Speech Contest
05/2017 **Excellent Member** of HMU Youth Volunteers Association

QUALIFICATION

- 05/2018 Cambridge English Level 1 Certificate in ESOL International(Business Vantage), Cambridge Assessment of English

SKILL

Programming: R, Perl, Linux

Other Software: RStudio, Pleditor, Adobe Illustrator, Cytoscape