Haoyu Wang

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https://carlwhy-28.github.io

Education

University of Pittsburgh (Master's Degree) Pittsburgh, US 2024 - 2026(expected)

- Major: Information Science

Beijing Forestry University (Bachelor's Degree) Beijing, CN 2020 - 2024

- Major: Computer Science and Technology

Internship Experience

UPMC Hillman Cancer Center (Position: Computational Biology Intern) Pittsburgh, US August 2024 – current

- Utilized Python for developing integrative machine learning approaches and Omics data analysis at Osmanbeyoglu Lab
- Optimized and applied STAN, a computational method based on machine learning, to pancreatic cancer data. Used statistical methods to find consistency in Transcription Factor (TF) and Pathway activity between different patients

Beijing Huashu Yihui Technology Co., Ltd (Position: Data Analyst) Beijing, CN March 2024 – JUN 2024

- Utilized Python and SQL for the analysis, outlier detection and missing value process of medical data
- Selected features for a large medical model, used z-scores to detect anomalies, and utilized KNN to fill in missing values.

Shenzhen Zmotion Technology Co., Ltd (Position: Vision Engineer) Shenzhen, CN July 2023 – March 2024

- Utilized Python for visual positioning, matching, and detection algorithm encapsulation in the company's IDE
- Assisted in function packaging for visual features and created document for developer

Research Experience

Pancreatic Data Analysis August 2024 – current

- Utilized LMM to model the relationship between gene expression and pathway/TF activity to infer the activity of the pathway/TF
- Analyzed the activity difference between clusters, such as Cancer, CAF, using p value to determine which pathways/TFs have significant influence on each cluster

Driver Fatigue Detection Algorithm Based on Deep Learning (Graduation project) March 2024 – Jun 2024

- Realized the analysis of human fatigue states based on YOLOv8-pose and devised a multi-modal evaluation algorithm
- Realized the analysis algorithm of yawning and squinting based on facial key points detection

Office OA System Based on Mybatis February 2023 – May 2023

- Developed an integrated database system supporting different SQL languages for mainstream database maintenance
- Involved in template writing and module testing for two SQL dialects and participated in overall system integration

Detection and Removal Operation Robot June 2022 - August 2022

- Developed a perceptron component, including the deep learning-based object detection and the ranging function
- Utilized YOLOv5 for detection, used the coordinate difference between the boxes of the objects to calculate the distance

Certifications

Machine Learning, Modeling, and Simulation Principles - Massachusetts Institute of Technology 2021

Skills

- Programming skills: Java, C++, C, Python, Pytorch, Git, Linux, Matlab, Labview, MySQL, SQL Server
- Web Dev: Html, Css, JavaScript, Vue, Apache Web Server, Tomcat Web Server