

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