YIQING (MELODY) WANG

Email | (+1) 443-651-9084 | LinkedIn

EDUCATION

Carnegie Mellon University (CMU)	Pittsburgh, PA
Master of Science in Automated Science: Biological Experimentation	May 2023
GPA: 4.20/4.33 Graduate Student Representative	
Relevant Courses: Machine Learning with Large Datasets, Intermediate Deep Learning, String	; Algorithms
Johns Hopkins University (JHU)	Baltimore, MD
Bachelor of Science in Molecular and Cellular Biology Bachelor of Arts in Behavioral Biolog	gy May 2021
GPA: 4.0 /4.0 Dean's List Fall 2017 - Spring 2021 Member of Phi Beta Kappa	
SKILLS	
Languages: Python, R, Java, JavaScript/TypeScript, MATLAB, HTML, CSS, SQL Libraries and Services: PySpark, TensorFlow, PyTorch, Scikit-learn, Django, REST, Angular,	Git, AWS
ACADEMIC PROJECTS	
Fully Automating qPCR Parameter Optimization CMU	January - May 2022
• Utilized active learning algorithm to automatically generate the next set of qPCR parameters	eters to experiment with
that would most improve the predictive model for Ct values in a team of four	
Collaborated with teammates to construct liquid handling and robotic scheduling scripts	on Thermo Fisher's
integrated robotic system to automatically execute qPCR experiments recommended by	the algorithm
Predicting Cancer Types from Transcriptome Profiles CMU	January - May 2022
• Accurately predicted cancel type between adrenal and renal cancel from HTSeq gene ex	pressions of primary
• Identified ton five differentially expressed genes between adrenal and renal cancer and d	liscovered a
subphenotype of pediatric renal cancer from PCA and tSNE visualizations	
WORK & RESEARCH EXPERIENCE	
Predictive Oncology, Helomics Division	Pittsburgh PA
Automation/Full-stack Development Intern	May - August 2022
• Developed a full-stack web interface using Django REST and Angular 6 to integrate acti	ve learning algorithm
with wet lab experimentation to improve automation of cancer drug discovery	
• Fully integrated remote communication with the liquid handling robot into the website	
• Designed frontend presentation, presented to and received feedback from lab operators,	and created aesthetic and
user friendly visualizations using Angular Material, CSS, and D3	
• Formulated entity relationships, managed and constructed new tables and entries in a my	rSQL database
CMU, Computational Biology Department	Pittsburgh, PA
Research Assistant Dr. Robert Murphy's Lab	July 2021 - May 2022
Devised algorithms to analyze fluorescence microscopy images and characterize protein	colocalization
Developed and optimized protocols on an integrated robotic system to automate immuno	ocytochemistry
Johns Hopkins School of Medicine, Pathology Department	Baltimore, MD
Research Assistant Dr. Vassilis Koliatsos's Lab	anuary 2019 - May 2021
• Developed an automated data analysis program; discovered a shift in axon size distribution	ion after traumatic brain
injury in mice corticospinal tract; published results in Long-Term Changes in Axon Calil	vers after Injury:
Observations on the Mouse Corticospinal Tract in International Journal of Molecular Sc	iences, July 2022
• Constructed Sarm1 knock-out Neuro-2a cell lines using CRISPR-Cas9 technology	