

Liu Qi

CONTACT INFORMATION	Bldg 2, 1 Yongtaizhuang N Rd Beijing, China, 100192	nihaworld@outlook.com liuqdev.github.io
EDUCATION	Tsinghua University M.Sc. in Control Engineering <ul style="list-style-type: none">• GPA: 3.8/4.0, Ranking: TOP 5%• Advisor: Prof. Liu Ming• Relevant Courses: Big Data Systems, Big Data Analytics, Pattern Recognition, Data Mining, Systems Engineering and Optimization	Beijing, China September 2018 - June 2021
	China University of Mining and Technology B.Sc. in Electronic Information Science and Technology% <ul style="list-style-type: none">• GPA: 3.5/4.0, Ranking: TOP 5%• Advisor: Prof. Liu Bing• Related courses: Advanced Programming Language Design, Computer Architecture, Computer Networks, Data Structures, Operating Systems, Embedding System	Xuzhou, China September 2014 - June 2018
PUBLICATIONS	Zhou, X., Cheng, Z., Dong, M., Liu, Q. , Yang, W., Liu, M., Tian, J., & Cheng, W. (2022). Tumor fractions deciphered from circulating cell-free DNA methylation for cancer early diagnosis . Nature Communications, 13(1), 7694. Guo, J., Liu, Q. , Guo, H., Lu, X. (2022). Ligandformer: A Graph Neural Network for Predicting Compound Property with Robust Interpretation . arXiv	
RESEARCH EXPERIENCE	Tsinghua University <i>Master's Researcher</i> <ul style="list-style-type: none">• I was responsible for the design and research of the "Cancer Early Detection and AI-Assisted Diagnosis Based on Tumor Liquid Biopsy Markers in Blood" project.• I processed and constructed a DNA methylation dataset, and developed a new method for identifying tumor-specific DNA methylation sites and predicting the source of tumor tissue.	Beijing, China June 2020 - June 2021
	Longmaster Information & Tech Co.,Ltd. & Guiyang Sixth People's Hospital <i>R&D Intern</i> The design and development of the "Medical Image Intelligent Annotation" project: <ul style="list-style-type: none">• I built multiple organ semantic segmentation models based on deep learning.• I transformed the manual annotation software and developed an intelligent segmentation system and workflow for chest CT and MRI images. The project won the Excellent Enterprise Practice Award from the Department of Automation at Tsinghua University.	Guiyang, China September 2019 - June 2020
	China University of Mining and Technology <i>Undergraduate Researcher</i> I was in charge of the design and development of "Image Natural Language Description Based on LSTM". <ul style="list-style-type: none">• I created a Chinese image natural language description dataset and built multiple CNN+LSTM image description models.• I compared the natural language description performance of the models on various datasets, and developed an application software. project was named the Outstanding Undergraduate Graduation Project in 2018.	Xuzhou, China November 2017 - June 2018

WORK EXPERIENCE	Global Health Drug Discovery Institute (GHDDI) <i>AI Research, Associate Scientist</i>	Beijing, China June 2021 - present
	<ul style="list-style-type: none"> • Led the design and development of an AI-generated project on small molecule drugs targeting the 3CL protein of COVID-19, proposing a novel approach to small molecule and protein processing. • Participated in the design and development of ADMET property prediction projects for anti-viral and anti-malaria small molecule drugs, helping to establish a small molecule property prediction platform. • Participated in the RD of a project on the cryo-EM structure analysis of human abnormal fibrinogen with Peking Union Medical College, proposing a new analysis process and method. 	
LEADERSHIP EXPERIENCE	IOT Big Data Institute of CUMT <i>Deputy head</i>	Xuzhou, China December 2016 - June 2017
	Assisted the professor in designing laboratory management regulations, organized and managed a student team of dozens of people, and organized a series of activities including more than a dozen scientific and technological innovation competitions, lectures, and other events.	
PROJECTS	Target Aware Molecular Generation [Code] Target-specific Molecular Generation integrating protein-ligand interactions based on cVAE and Graph Neural Network	
	Modified ChemTreeMap [Web] A New TreeMap Tool for Chemical Libraries' Diversity Analysis	
	Modified CryoDRGN [Web] From Projections to 3D Density Map of CyroEM.	
	AI-Assisted Annotation [Web] AI-Assisted Annotation for Medical Images.	
	A News Clustering System Based on K-Means [Web] A News Auto Crawling and Clustering System.	
HONORS AND AWARDS	Tsinghua Comprehensive Excellence Scholarship (Top 10%) CUMT Excellent Undergraduate Thesis (Top 10%) CUMT First Prize Scholarship and Outstanding Student Award (Top 10%) First Prize in The 13 th National College Students' Embedded System Design Competition Second Prize of East China Division in the 3 rd National College Students' "Internet+" Innovation and Entrepreneurship Competition	2019 2018 2017 2017 2017
SKILLS	Programming: Python, Shell, C/C++, Java Data analysis: SQL, Excel, R, MATLAB Applications: Git/GitHub, L ^A T _E X, WebDev Language: Mandarin (native), English (fluent), German (beginner)	