

Tianyu (Henry) Wu

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EDUCATION

Duke Kunshan University (DKU) / Duke University (Duke) Dual Degree Undergraduate Program	2023.5
<i>B.S. in Applied Mathematics and Computational Science/Mathematics (by DKU)</i>	Kunshan, China
<i>B.S. in Interdisciplinary Studies (Applied Math & Computational Science; Math, by Duke)</i>	
<ul style="list-style-type: none">▪ GPA: 3.94/4.00 (Top 5%); Dean's List with Distinction (Fall 2019; Spring 2020); Dean's List (Fall 2020; Fall 2021)▪ Full Merit-based Scholarship recipient; National Scholarship recipient; DKU Summer Research Scholar Fellowship recipient▪ Honorable Mention - Mathematical Contest in Modeling (MCM) 2020▪ Campus Director, United Nations (UN) Millennium Fellow, Class of 2022	
Yale-NUS College & National University of Singapore (NUS)	2022.1-2022.5
<i>Semester Exchange</i>	Singapore, Singapore
<ul style="list-style-type: none">▪ Group Leader, Business Relations Team, Global China Connection - National University of Singapore China Summit 2022	

PROFESSIONAL EXPERIENCE

IToken	2022.7-2022.11
<i>Growth Intern</i>	Shanghai, China
<ul style="list-style-type: none">▪ Established an automated tracking and analysis pipeline, including over 2000+ crypto-related financial institutions around the world through developing Robot Process Automation (RPA) applications.▪ Adapted the Support Vector Machines (SVM) algorithm as a natural language processing tool, to help source potential business clients throughout the crypto market via various channels.	
CITIC Securities Company Limited	2021.7-2021.8
<i>Business Development Intern</i>	Shanghai, China
<ul style="list-style-type: none">▪ Applied Monte Carlo Simulation and Finite-difference PDE Methods separately to implement pricing models for the snowball options, with CSI Smallcap 500 Index as the target.	
Bank of China	2020.5-2020.7
<i>Summer Intern, Individual Digital Finance Department</i>	Nantong, China
<ul style="list-style-type: none">▪ Redesigned the Individual Customer Information Quality Management Classification system based on consumer behavior analysis, and improved the efficiency of the original system by 50 percent.	

RESEARCH EXPERIENCE

Analyzing the Gap in Cancer Control Equity in China Data+ Program, Duke University	2022.5-2022.8
<i>Research Assistant. Supervisor: Dr. Meifang Chen, Assistant Professor of Health Policy at Duke Kunshan University</i>	
<ul style="list-style-type: none">▪ Investigated social determinants of cancers in local areas and examined the impact of individual behaviors, social and physical environment, and policy influence on cancer-related outcomes in China.▪ Applied the natural language processing (NLP) algorithm on Chinese social media posts, to quantify public sentiment towards the human papillomavirus (HPV) vaccine.	
Understanding Waiting Time in Transaction Fee Mechanisms Academic Grants Round Awarded by Ethereum Foundation	2022.2-2022.10
<i>Research Fellow</i>	
Supervised by Principal Investigator: Dr. Luyao Zhang, Assistant Professor of Economics at Duke Kunshan University; Co-Principal Investigator: Dr. Fan Zhang, Assistant Professor of Computer Science at Yale University	
<ul style="list-style-type: none">▪ Applied deep reinforcement learning model to extend and analyze the dynamics of the Ethereum Transaction Fee Mechanism.▪ Improved the user behavior models using game theory solution concepts based on both rationality and bounded rationality.	
How FinTech Empowers Asset Valuation: Theory and Applications Summer Research Scholar (SRS), DKU	2021.5-2021.10
<i>Student Lead/Research Assistant. Advisor: Dr. Luyao Zhang, Assistant Professor of Economics at Duke Kunshan University</i>	
<ul style="list-style-type: none">▪ Backtested a selected basket of stocks and cryptocurrencies on daily closed price from Alpha API, using moving averages, volume-weighted averages, sentiment analysis, and pair trading strategies.▪ Proposed a generally applicable data science pipeline for designing, programming, and evaluating different trading strategies to enhance crypto asset valuation.	

Zu Chongzhi Center of Mathematics and Computational Science (CMCS), DKU

2020.7-2021.6

Research Assistant. Advisor: Dr. Shixin Xu, Assistant Professor of Mathematics at Duke Kunshan University

- Built an Ordinary Differential Equation (ODE) mathematical model on the rate of calcium clearance to demonstrate that the dissolution of calcium that has aggregated within the mitochondria of vascular smooth muscle cells can drive an hour-long disruption, to improve the state of neurovascular malfunction in the wake of Cortical Spreading Depressions.

PUBLICATIONS & CONFERENCE

- Zhang, Luyao, **Tianyu Wu**, Saad Lahrichi, Carlos-Gustavo Salas-Flores, and Jiayi Li. 2022. "A Data Science Pipeline for Algorithmic Trading: A Comparative Study of Applications for Finance and Cryptoeconomics." *2022 IEEE International Conference on Blockchain (Blockchain)*, August. <https://doi.org/10.1109/blockchain55522.2022.00048>.
- **Wu, Tianyu**, and Meifang Chen. 2023. "Attitudes toward the Uptake of HPV Vaccine on Social Media in China: A Geospatial Analysis." *Accepted at the Consortium of Universities for Global Health (CUGH 2023), Washington DC, the United States*, April 14-16.
- Sun, Yishui, **Tianyu Wu**, Haibei Zhang, Joshua Chang, Huaxiong Huang, and Shixin Xu. 2021. "Improved Mathematical Modeling of Persistent Post-Cortical Spreading Depression." *Mathematics in Action (MiA2021): Modeling and Analysis in Molecular Biology and Electrophysiology, Kunshan, China*, June 10-13.

LEADERSHIP & SERVICE**SciEcon CIC (Non-Profit Organization)**

2021.5-Present

Inaugural Member, Interim Chair of Human Resources

Registered in London, UK

- Participated in SciEcon AMA (Ask Me Anything) to conduct interviews with blockchain scholars, professionals, and entrepreneurs.
- Served as Inaugural Co-Chair and Executive Chair of the SciEcon Supertalent Program, nurturing candidates to stand out in research, innovation, and leadership by partnering with leading companies in the blockchain industry.
 - Delivered an industry report: *Introduction to Service Neuron System (SNS) in Internet Computer Protocol (ICP)*, with aspects including tokenomics, decentralized governance, and so on.
 - Conducted a holistic comparable company analysis for the client, a decentralized content review platform.

Teaching Assistant of Prof Luyao Zhang at Duke Kunshan University

2021.8-2022.5

Relevant Courses: Intelligent Economics: An explainable AI approach; Computational Microeconomics

- Assisted the professor with co-drafting 5 interactive instructions (including 2 code samples) on interdisciplinary coursework and research, and devising new methods of student assessments.
- Contributed to publishing the above two interdisciplinary and research-based curricula as components of Industry 4.0 Open Educational Resources (OER) with open access to students and researchers worldwide.
 - Zhang, Luyao, **Tianyu Wu**, Xinyu Tian, Jingwei Li, Chenyu Wang, and Zesen Zhuang. 2022. "Intelligent Economics: An Explainable AI Approach." <https://doi.org/10.21428/aa21bfc0.841ff112>.
 - Zhang, Luyao, **Tianyu Wu**, Xinyu Tian, and Zesen Zhuang. 2022. "Computational Economics."

Student Alumni Board (SAB), Student Organization in DKU

2021.5-2022.11

Inaugural Member, Chairperson. Supervisor: DKU Office of Development and Alumni Relations

- Initiated and led two alumni-related projects: Alumni Talks & Alumni Stories to develop and foster student-alumni relations, and inspire Forever DKU spirit among students. Pageviews and followers of the SAB WeChat account have tripled in one year.
- Offline Alumni Talk: Norah Yang's Sharing, Fuqua MMS alumnus and famous talk show actress, was fully booked in 10 mins.

Student Ambassador Committee, Student Organization in DKU

2019.10-2021.7

Inaugural Member, Chairperson. Supervisor: DKU China Enrollment Office

- Recruited over 60% of enrolled Chinese students at DKU to join the Student Ambassador Program to organize and implement strategies for promoting DKU's liberal arts education among the top high schools across 18 provinces.

ADDITIONAL INFORMATION**Skills:** Python, SQL, Java, SAS, MATLAB, Julia, QGIS, MS Office (incl. VBA), LaTeX**Coursera courses:** Python and Pandas for Data Engineering; Python Data Structures; Decentralized Finance (DeFi) Infrastructure**Certificates:**

- The Securities Qualification Certificate issued by the Securities Association of China
- International Peer Educator Training Program Certificate ([IPTPC](#)) issued by College Reading & Learning Association

Interests and Hobbies: Chinese calligraphy, Guitar, Tennis, Swimming, Badminton