HENING CUI

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EDUCATION

Columbia University – Mailman School of Public Health, New York, NY Expected May 2023
Master of Science in Biostatistics, Theory & Method Track **GPA:** 3.99
Selected Courses: *Probability, Data Science, Biostatistical Methods, Machine Learning*

The Hong Kong Polytechnic University, Hong Kong, China May 2020
Bachelor of Science in Applied Biology with Biotechnology, BSc. (HONS) **GPA:** 3.53
Selected Courses: Programing Fundamental, Data structure

SKILLS

- ***Programming & Software***: R, Python, SQL, JAVA, Microsoft Office (Excel, Word, PowerPoint)
- ***Certificate***: Qualification of Computer and Software professional in database engineer (China)
- ***Language***: English (Proficient), Japanese, (Fluent), Chinese (Native)

RESEARCH EXPERIENCE

Price Prediction of Bitcoin (BTC) Using Deep Learning, Columbia University
Project Team Leader September – November 2021

- Researched and compared different time-series prediction techniques including **ARIMA, RNN, LSTM**
- Built-up **Python programming language** to clean the data and set up the selected models
- Used Mean Square Error metrics to evaluate and compare accuracies of different modeling results
- Successfully determined LSTM to be the best model and achieved well performance in long-trends predction in this research project

Modeling of Innocent Death Rate Made By Police in the US, Columbia University
Project Team Member September – November 2021

- Collected, cleaned, and processed raw data of death records on 50 US states from 2010 to 2020
- Researched and constructed **linear regression model** to statistically analyze innocent death by police violence, also used Lasso to reduce the effect of overfitting
- Built-up an analytical dashboard using **R Shiny** to clearly demonstrate key findings and insights across time and geography
- Furthur equipped the **dashboard** using interactive map and figures with **click events** to perform high-quanlity data visualization for users

INTERNSHIP EXPERIENCE

Brigham and Women's Hospital, Harvard Medical School, Boston, MA Summer 2019
Intern Researcher

- Studied causes of pulmonary hypertension and Fibrodysplasia Ossificans Progressiva (FOP)
- Mastered knowledge of vascular cells and BMP growth factor
- Conducted ultrasonic testing, analysis of qPCR, DNA and RNA extraction, and immunofluorescence staining

PUBLICATIONS

Yang M, Fan Y, Wu ZY, Gu J, Feng Z, Zhang Q, Han S, Zhang Z, Li X, Hsueh YC, Ni Y, Li X, Li J, Hu M, Li W, Gao H, Yang C, Zhang C, Zhang L, Zhu T, Cheng M, Ji F, Xu J, **Cui H,** Tan G, Zhang MQ, Liang C, Liu Z, Song YQ, Niu G, Wang K. DAGM: A novel modelling framework to assess the risk of HER2-negative breast cancer based on germline rare coding mutations. EBioMedicine. 2021 Jul;69:103446. doi: 10.1016/j.ebiom.2021.103446. Epub 2021 Jun 19. PMID: 34157485; PMCID: PMC8220579.