

# Xinyi LIN

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## Education

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**The University of Hong Kong** | Hong Kong SAR, China

*Doctor of Philosophy in Bioinformatics*

09.2020-Now

**Columbia University** | NY, US

*Master of Science in Biostatistics*

09.2018-05.2020

- GPA: 3.95
- Main Courses: Probability, Data Science, Biostatistical Methods, Epidemiology, Statistical Inference

**Sun Yat-sen University** | Guangzhou, China

*Bachelor of Science in Biological Science*

09.2014-06.2018

- GPA: 3.9/4.0
  - Main Courses: Cell Biology, Biochemistry, Genetics, Ecology, Microbiology, Biostatistics, Advanced Mathematics
- Statistics (Double Major)*
- Main Course: Mathematical analysis, Geometry and algebra, Advanced programming language, Data structure, Database principles and applications

## Research

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### *Data Imputation*

Practicum, SSTAR, Columbia University

06.2019-03.2020

- This project belongs to the Rakai Health Sciences Program (RHSP) which was established in 1987 as a collaboration between researchers at Makerere, Columbia and John Hopkins Universities, the Division of Intramural Research at the National Institutes of Allergy & Infectious diseases and the International Centre for Excellence Research (ICER).
- Data comes from Rakai Community Cohort Study (RCCS) which is about school enrollment and related factors including age, family size, orphanhood and so on
- Use logistic regression, additive model, and random forest to do multiple imputation for missing data based on existing data and use 10-fold cross validation to evaluate models.
- The accurate rate of final model is around 88%
- A pipeline script was written for further use

### *Methylation of the N6 Position of Adenosine(m<sup>6</sup>A)*

Research Assistant, Bioinformatics Lab, School of Life Sciences, SYSU

09.2017-06.2018

- Build analysis platform to study the allele-specific of m<sup>6</sup>A, abnormality of which may result in critical illness
- Cooperate with a cancer center to collect large amount of data from cancer patients
- Use MCMC algorithm and Bayesian statistics together with massive data analysis to figure out whether m<sup>6</sup>A is more likely to happen in certain alleles
- More than 10 allele-specific m<sup>6</sup>A sites were found

### *Dominance Style of Macaca Mulatta in Nanwan Monkey Island*

Chief Researcher, Primates and Human Evolution Lab, SYSU

04-10.2016

- Collected thousands of video data of Macaca Mulatta with camera in Nanwan Monkey Island
- Read more than 60 publications to extract relative indexes for comparison
- Utilized Excel and R to calculate the frequency of certain behaviors and deduce the specific dominance style of the targeted macaque group

## ***R Square***

Key Member, Southern China Center for Statistical Science, SYSU 05.2017-06.2018

- Conduct data pre-processing, cleaning, and labeling before analysis procedure under the guidance of theories concerning statistics, programming, and mathematics
- Develop capacity of mathematical modeling, programming as well as data processing through analyzing 120MB television data mainly based on R and Python
- Based on watching history data, we get schedules of shows for each channel
- Make a report for each data analysis case and present the research findings

## **Practical Experience**

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**Key Member, The Interdisciplinary Contest in Modeling 01.2017**

- Established a model to assess whether a city meets smart growth with Analytic Hierarchy Process (AHP)
- Chose two cities (Sydney and Yantian in Shenzhen City) as experiment objects, and predicted their future development tendency; conducted sensitivity tests to judge its stability and validity
- Composed a thesis “A Model of Sustainable Smart Growth to Evaluate and Plan smart growth of a City”, and won Honorable Mention

**Vice President, Student Union, School of Life Sciences, SYSU 05.2015-05.2016**

- Was responsible for the basic operation and management of Academic Department and PR Department
- Communicate with other vice presidents or presidents, schools, or university departments
- Organized many school activities as the people in charge, including “SUSY Cutting-edge Lecture”, “Lab Tour”, “Biology Festival”, “Biology Experiment and Skills Contest”, etc.
- Worked with presidents from other student union in other universities and organized different activities

**Intern, Bao'an Hospital of Chinese Medicine, Shenzhen 07-08.2017**

- Recorded the situation about diabetes and hypertension for the elderly, vaccine injections for newly born babies, and epidemic diseases in the 5 affiliated community health service centers
- Examined the public health services mainly for the aged above 65-year-old, pregnant and newly born babies
- Helped government departments for the supervision and regulation of health service centers

## **Honors**

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- Third Class Scholarship in 2014-2015
- Second Class Scholarship and Discipline Competition Award in 2015-2016
- Third Class Scholarship in 2016-2017
- Champion in “Bio-Debate” Competition (College Level)
- First Prize in Freshman Debate Competition (University Level)
- First Prize in School Singing Contest (Member of School Chorus)
- “School Reading Star” Award (University Level)
- “Best Planner” award and First Prize in School Planning Contest (College Level)

## **Skills**

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**Experiment skills:** basic cell biology experiment, microbiology experiment, biochemistry experiment, animal surgery

**Computer skills:** R, Python, Linux, SAS, MATLAB, R, C++, Oracle

**English skills:** CET-4 559; CET-6 559; TOEFL 102; GRE 320+3.5