

# SIYING (SYDNEY) MA

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## EDUCATION

### Doctor of Philosophy in Statistics

Simon Fraser University

Supervised by Dr. Jiguo Cao and Dr. Lloyd Elliott

GPA: 4.33 / 4.33      Average Grade: A+

Sep 2024 - Present  
Burnaby, British Columbia

### Master of Science in Statistics

University of Victoria

Supervised by Dr. Laura Cowen

Thesis: Development of a disease analytic model for estimating the hidden population using the stratified-Petersen estimator

GPA: 9.0 / 9.0      Average Grade: 94 / 100

Sep 2022 - Aug 2024  
Victoria, British Columbia

### Statistics (Fully Funded Exchange Program)

University of Victoria

GPA: 9.0 / 9.0      Average Grade: 98 / 100

Sep 2019 - Apr 2020  
Victoria, British Columbia

### Bachelor of Science in Statistics

East China Normal University

Thesis: eQTL Analysis with Auxiliary Information based on Multivariate Normal Hierarchical Bayesian Model

GPA: 3.55 / 4.0      Average Grade: 85 / 100

Sep 2017 - June 2021  
Shanghai, China

## PUBLICATIONS & CONFERENCE TALKS & PROJECTS

### Publications

Ma, Siying, Zadeh, M. Mehrdad, Chen, Wuyang, Cao, Jiguo, Ganesh, Vijay. *Data-Efficient Operator Learning via Learning Fundamental Physics Knowledge*. (Submitted to Neurips 2025).

Ma, Siying. 2024. *Development of a disease analytic model for estimating the hidden population using the stratified-Petersen estimator*. Master's Thesis, Department of Mathematics and Statistics, University of Victoria. (Submitted to Biometrics)

Ma, Siying. 2021. *eQTL Analysis with Auxiliary Information based on Multivariate Normal Hierarchical Bayesian Model*. Undergraduate Thesis, East China Normal University (ECNU), Shanghai, China. (Available Upon Request)

### Conference Presentations

Ma, Siying. Oral presentation entitled "Data-efficient Operator Learning based on Fundamental Physics Principle", 2025 International Conference on Statistics and Data Science conference, Vancouver, Canada. (Upcoming Conference)

Ma, Siying. Oral presentation entitled "Development of Clinical Prediction Model for The Recurrence and Mortality of CDI Using Machine Learning Approach", 2022 IQVIA Data Science AIML Conference, Virtual.

### Projects - Acknowledge for leading the whole statistical analysis independently @IQVIA Advanced Analytics

Guo, et al. 2024. *Clinical decision pathway and management of locally advanced head and neck squamous cell carcinoma: A multidisciplinary consensus in Asia-Pacific*, Oral Oncology, Volume 148.

Ku, et al. 2024. *Risk stratification and management of non-muscle-invasive bladder cancer: A physician survey in six Asia-Pacific territories*. International Journal of Urology, Volume 31: 64-71.

Kikuchi, et al. 2024. *Controversies in terminology associated with management of BCG-unresponsive NMIBC in Asia-Pacific*. International Journal of Urology, Volume 31: 32-38.

## SERVICES & ACTIVITIES

Paper Reviewer for Journal of Applied Statistics

2024

Leader of Workshop at IQVIA Advanced Analytics

2022

Student Leadership Activities & Volunteer Experience at East China Normal University

- Founded a volunteer team and published textbooks that teach children financial literacy. 2018 - 2020
- Head of Student Association External Affairs; Head of Photography Association 2018 - 2019
- Volunteer for teaching local dialects and traditional culture to new coming immigrants 2017 - 2019

## AWARDS & ACADEMIC ACCOMPLISHMENTS

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2024-2028 PhD Research Scholarship, Simon Fraser University, Burnaby, BC, \$1,836CAD per term  
2024-2025 Special Graduate Entrance Award, Simon Fraser University, Burnaby, BC, \$5,000CAD  
2023-2024 Victoria Canada-China Friendship Association Scholarship, University of Victoria, Victoria, BC, \$726CAD  
2023-2024 JJEM Graduate Award in Mathematics and Statistics, University of Victoria, Victoria, BC, \$1,465CAD  
2023-2024 University of Victoria Graduate Award, University of Victoria, Victoria, BC, \$2,000CAD  
2023-2024 Visual and Automated Disease Analytics (VADA) training program (NSERC), \$9,000CAD  
2022-2023 Betty and Gilbert Kennedy Graduate Scholarship, University of Victoria, Victoria, BC, \$5,000CAD  
2021-2022 University of Victoria Graduate Award (Entrance scholarship), University of Victoria, Victoria, BC, \$4,400CAD  
2021-2022 Individual Award of IQVIA Impact Program, IQVIA, Greater China, ¥1,450RMB  
2019-2020 Top-Grade Student Scholarship (top 5%, rank: 2/85), East China Normal University, Shanghai, ¥5,000RMB  
2019-2020 President's Scholarship, University of Victoria, Victoria, BC, \$4,000CAD  
2019-2020 Exchange Student Scholarship (ECNU-UVic), University of Victoria, Victoria, BC, \$4,000CAD  
2018-2019 Best Student Leader of Student Association, East China Normal University, Shanghai  
2018-2019 Superior Volunteer Award, East China Normal University, Shanghai  
2017-2018 Third Prize Student Scholarship (top 20%), East China Normal University, Shanghai, ¥1,000RMB

## EXPERIENCE

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**Structure-Preserving Scientific Computing and Machine Learning Summer School and Hackathon** June 2025  
Pacific Institute for the Mathematical Sciences (PIMS) & University of Washington Seattle, Washington

**Pacific Institute on Pathogens, Pandemics and Society (PIPPS)** Feb 2025 - Present  
Simon Fraser University Burnaby, British Columbia

- Conducted machine learning research, focusing on health science and ecological applications to model infectious diseases, while contributing to interdisciplinary projects aimed at enhancing public health resilience.

**Teaching Assistant** Sep 2022 - Present  
Simon Fraser University & University of Victoria Burnaby, British Columbia

- SFU: STAT240 - Introduction to Data Science; STAT260 - Introductory R for Data Science; STAT271 - Probability and Statistics for Computing Science
- UVic: STAT123 - Data Science; STAT252 - Statistics for Business; STAT255 - Statistics for Life Sciences; STAT260 - Introduction to Probability and Statistics

**Visual and Automated Disease Analytics (VADA) Graduate Training Program** Sep 2023 - Dec 2023  
University of Manitoba & University of Victoria Victoria, British Columbia

- Explored disease etiologies and transmission patterns, and experienced in translating complex health data into insights that can be used to support and improve professional healthcare decision making.
- Mastered advanced analytic techniques: provided meaningful data visualization using Tableau, applied data mining, text mining and predictive analytics using machine learning techniques and conducted unsupervised learning.

**Statistician, Data Science and Advanced Analytics** Apr 2021 - Aug 2022  
IQVIA Shanghai, China

- Developed post-market study, prospective and retrospective cohort study and database study for various diseases and drugs.
- Provided feasibility analysis and improved protocols, statistical analysis plans and table shells for issue clarification.
- Worked with cross functional teams to identify and resolve problems in real-world study (RWS), and made a solid foundation for helping Data Science and Advanced Analytics team expand APAC and Greater China business.

**Statistical Analyst Intern, Computation (SAS)** Jan 2021 - Mar 2021  
Eli Lilly and Company Shanghai, China

- Developed SAS programs for reviewing specific datasets in accordance with data management plan on Case Report Form.
- Conducted the actual analysis based on statistical analysis plan (SAP) once a reporting database was created.
- Familiar with the knowledge of CDISC clinical data standards and transferred data to ensure the clarity and high quality.

**Medical Data Science and Solutions Intern** Aug 2020 - Jan 2021  
Eli Lilly and Company Shanghai, China

- Processed information using R and Excel to produce reports for pharmaceutical analytics and site management.
- Integrated, automated, and visualized clinical trial data in Tableau; Streamlined desk research.
- Collaborated with scientists to ensure accuracy of clinical results and identify potential issues impacting data quality.