

## EDUCATION

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### Beijing Normal University-Hong Kong Baptist University United International College (UIC)

BSc Statistics

09/2021- 06/2025

- **Notable Courses:** Real Analysis, Survival Analysis, Data Mining, Time Series Analysis, Statistical Computing, Multivariate Analysis, Categorical Data Analysis, Experimental Design, Applied Stochastic Process, Network and Transportation Models, Advanced Statistics, Advanced Probability, Optimization, Linear Programming and Integer Programming, Regression Analysis, General Biology
- **GPA:** 3.72/4.0, Ranking: 6/94
- **Dissertation:** Prediction of response to chemotherapy via patient-derived tumor organoids test

### University of Oxford

Data Science (150 Hours), Academic Summer School

08/2022

## RESEARCH PROJECTS

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### Prediction of Response to Chemotherapy via Patient-derived Tumor Organoids Test

10/2023-present

*Supervisors:* Ping He and Xiaoling Peng, UIC

- Engaged in the design and implementation of experimental protocols using patient-derived tumor organoids to predict chemotherapy response.
- Responsible for the statistical analysis of data, interpretation of results, and the development of a predictive algorithm to guide personalized treatment strategies for cancer patients.

### Statistical Computing in Research

01/2024-08/2024

*Supervisor:* Divakaran Liginlal, Carnegie Mellon University

- Conducted independent research using techniques including descriptive statistics, statistical inference, hypothesis testing, regression analysis and machine learning.
- Examined whether dimensionality reduction and machine learning can be synergistically used to enhance the efficiency and security of intrusion detection systems and completed a research report.

### Time Series Analysis

05/2024-06/2024

*Supervisor:* Bohai Zhang, UIC

- Conducted SARIMA (Seasonal Autoregressive Integrated Moving Average) model and LSTM (Long Short-Term Memory) model for weather forecasting.
- Compared among the models with different parameters based on metrics, such as AIC, BIC and Ljung-Box statistics.

### Application of Logistic Regression in Airline Satisfaction

11/2023-12/2023

*Supervisor:* Xiaoling Peng, UIC

- Conducted cross tabulation to find relationship of variables; Used chi-square test to indicate how well the logistic regression model fits the data; Estimate logistic regression coefficients.
- Concluded that all assessed service dimensions positively influenced customer satisfaction, except for customer service, with on-time performance being the most significant predictor.

## INTERNSHIP

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### Bayer China

01/2024-05/2024

Position: Biostatistics Analyst

- Performed z-tests and t-tests using the BSDA package in R to assess whether the substance content in a drug meets required standards based on limited sample data, providing interpretations of the results.
- Analyzed the effectiveness of a newly developed antihypertensive drug by calculating descriptive statistics and conducting exploratory data analysis on patient blood pressure across different dosage groups. Use t-tests to identify the optimal dosage for blood pressure reduction.
- Conducted survival analysis in R to evaluate the impact of different drug doses on hypertensive patient survival using Kaplan-Meier curves and log-rank tests.
- Utilized Python to develop a deep learning model for an AI-assisted medical system to classify brain CT scans, focusing on tumor and cerebrovascular conditions.

### Guangdong Kexinan Information Technology Co., Ltd

06/2022-07/2022

Position: Network Security Intern

- Assisted in preparing reports on security vulnerabilities and violations.
- Assisted in financial data analysis, creating spreadsheets and updating financial reports.
- Supported administrative tasks.

## PUBLICATION

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**Zhang, Z.,** Chen, H. & Shen, J. (Accepted) Can dimensionality reduction combined with machine learning result in more efficient intrusion detection systems? *International Conference on Applied Physics and Mathematical Modeling*, September 20, 2024. Chicago, USA

## SKILLS

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**Technical:** Python, C, R, Lingo, MATLAB, HTML, CSS

**Platforms/Software:** MySQL, RStudio, PyCharm, CLion, Unity3D, OpenCV, Jupyter, Visual Studio Code, LaTeX, SPSS

**Languages:** Mandarin (Native), Cantonese (Native), English (Fluent, IELTS 7.0), German (A1)

## HONOURS/AWARDS

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Successful Participant, Mathematical Contest In Modeling	2024
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Merit Prize, China Undergraduate Mathematical Contest in Modeling	2023
Second Class Award Scholarship	2024
First Class Award Scholarship	2023
First Class Award Scholarship	2022