Hongda **Yuan**

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EDUCATION

University of Michigan, Ann Arbor Aug. 2024 – Present
Master's Program, Major: Applied Statistics Michigan, USA

University of Nottingham Sep. 2022 – July 2024
Bachelor of Science with Honours, Major: Statistics, GPA: 3.954/4.0 Nottingham, UK

University of Nottingham Ningbo China (UNNC) Sep. 2020 – July 2024
Bachelor of Science with Honours, Major: Statistics, GPA: 3.954/4.0 Ningbo, China

Relevant Courses: Multivariate Analysis, Time Series, Stochastic Process, Statistical Inference, Applied Statistical Modeling

Selected Honors: Provincial Outstanding Graduates, 2024
Outstanding Community Contribution Award, 2024
School Achievement Prize by School of Mathematical Sciences, 2023 & 2024
Outstanding Students by UNNC Faculty of Science and Engineering, 2023 & 2022
Academic Excellence Award by Oxford International Study Abroad Programme, 2022
Dean's Scholarship by the University of Nottingham, Ningbo, China, 2021

RESEARCH EXPERIENCE

A Comparison between Global and Multiple Testing Procedures Jun. 2024 – Present
Research Project, Supervised by Dr. Abigail Burdon, Dr. Dominique-Laurent Couturier, Sponsored by NIHR, MRC BSU

- Reviewed 3 versions of clinical trial cases using multiple comparisons, and synthesized relevant patient data accordingly
- Found rejection boundary for the newly proposed global testing procedure by simulation, improving the power by 10%
- Deployed linear mixed effects model and inferred hypothesis testing results, inducing a 1% increase in power
- Performed power analysis comparing testing procedures, designed new visualizations to integrate into future publications

Bayesian Data Analysis for Impact of Weather Conditions on Malaria Prevention Effectiveness Jun. 2023 – Present
Research Project, Supervised by Dr. Adrian Denz, Sponsored by Wellcome Trust, University of Nottingham

- Cleaned 2 years of weather and malaria Experimental hut trials (EHT) data and generated 3 descriptive statistics for efficacy
- Performed exploratory analysis and visualized correlations between weather and efficacy to identify confounding factors
- Built 8+ Bayesian hierarchical models with Stan in R, improved elpd by 15.3 and se by 9.5 using LOOCV
- Compared and selected the current best model (Beta-Binomial model), and used it for mortality prediction

Deep Learning Approach for Optical Character Recognition (OCR) to Digitalize Documentation Jun.– Sep. 2022
Group Summer Research Project, Supervised by Dr. Boon Giin Lee, UNNC

- Utilized machine learning framework to program and develop variants of Generative Adversarial Networks (GANs)
- Conducted comprehensive performance evaluations on different models
- Completed tasks encompassing image preprocessing, character and tabular characterization, organization, and editing
- Trained GANs using benchmarks and processed some training sets pending further optimization

Analyzing System Dynamics of the Predator-Prey Model Under Allee Effects Jun.– Sep. 2022
Group Summer Research Project, Supervised by Dr. Mainul Haque, UNNC

- Utilized MATLAB to simulate the diverse model and produced a comprehensive thesis report of 5 pages
- Implemented simulations of the model with varying characteristics, including the identification of Hopf-bifurcation, equilibrium states, and numerical solutions to the system

INTERNSHIP

ByteDance Hangzhou Jun. 2021 – Sep. 2021
AI Training Assistant Hangzhou, China

- Established and curated training sets for an automated bilingual subtitle-generation program
- Performed manual noise reduction and selection on audio files and Chinese/English translation
- Produced approximately 18 hours of audio training sets, attaining an accuracy rate of 94%

PROFESSIONAL SKILLS

Programming: R, Python, MATLAB, HTML, CSS, JavaScript **Other Coding:** Latex, STATA, SQL, Tableau
Language: Chinese (Native), English (Proficient, IELTS 7.5), German (Elementary), Spanish (Elementary)