

# Bingchen Wang

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EDUCATION	<p><b>University of Oxford, St Hilda's College</b> Master of Philosophy, Economics, Distinction Thesis topic: "Detecting Parameter Shifts using Multiplicative-Indicator Saturation."</p> <p><b>Joint Bachelor's Degree Program</b></p> <p><b>Columbia University, School of General Studies</b> Bachelor of Arts, Mathematics-Statistics, GPA: 4.13/4.33 Summa cum laude, Phi Beta Kappa, Department Honors (Statistics), Dean's List</p> <p><b>City University of Hong Kong, College of Science and Engineering</b> Bachelor of Science (Honours), Computing Mathematics, GPA: 4.13/4.3 First-Class Honours, Dean's List</p>	<p>Oxford, UK 10/2019-6/2021</p> <p>New York, NY 9/2016-12/2018</p> <p>Hong Kong SAR 9/2014-5/2016</p>
RESEARCH EXPERIENCE	<p><b>Research Assistant</b> (advised by Prof. Bryan Kian Hsiang Low) <i>Glow.AI &amp; Institute of Data Science, National University of Singapore</i> <b>Research Domains:</b> Mechanism Design, LLM Bias &amp; Mitigation, AI for Social Science Led a research project applying contract theory to address the incentive problem in collaborative machine learning (CML). Conducted literature reviews in both economics and machine learning. Performed theoretical analysis to simplify a non-convex optimal contracting problem into a convex formulation, and identified key properties for optimal contracts. Developed Python algorithms to numerically solve the optimal contract, culminating in an academic paper under final review at AAAI25. Currently spearheading two other projects on AI and Social Science: one examining bias in large language models (LLMs) in recruitment, another designing LLM agents for social science research.</p> <p><b>Senior Research Assistant</b> (advised by Prof. Xiaojun Yan) <i>Research Hub on Institutions of China, The University of Hong Kong</i> <b>Research Domain:</b> Political Science Cleaned and linked large Chinese social science datasets (CGSS, CLDS, CFPS) for research use. Conducted exploratory data analysis in R to test research ideas, access feasibility, and plan project stages. Analyzed the relationship between ideology on income justice and family background using ordered logistic regressions, tailored statistical tests, and cross-checked key findings using other statistical techniques, such as grouped Lasso, and drafted the empirical analysis section of the associated academic paper. Contributed to peer reviews of assigned papers.</p> <p><b>Research Assistant</b> (advised by Prof. David Hendry and Prof. Jennifer Castle) <i>Climate Econometrics, University of Oxford</i> <b>Research Domains:</b> Climate Economics, Time Series Econometrics Expanded and maintained datasets for studying anthropogenic contributions to atmospheric CO<sub>2</sub> (Hendry and Pretis, 2011). Sourced and cleaned data from NASA, FRED, OECD, and national statistical bureaus. Created comprehensive documentation for dataset updates and developed visualizations to facilitate initial analyses. Provided research support for additional projects.</p> <p><b>Undergraduate Research Assistant</b> (advised by Prof. Belinda Archibong) <i>Department of Economics, Columbia University</i> <b>Research Domain:</b> Labor Economics Assisted with projects on ethnic bias in hiring ("Firm Culture: Examining the Role of Ethnicity in Hiring Using Evidence from Nigeria") and colonial labor coercion ("Colonialists, Taxation and Punishment: Prisons and Labor Coercion in British Colonial West Africa"). Conducted literature reviews on labor market bias in developing countries, cleaned and organized prison record data in Excel, facilitated experiment design, and coordinated communication between researchers.</p>	<p>Singapore 7/2023-Present</p> <p>Hong Kong SAR 9/2021-4/2022</p> <p>Oxford, UK 10/2019-6/2021</p> <p>New York, NY 9/2018-12/2018</p>
TEACHING EXPERIENCE	<p><b>Teaching Assistant</b> <i>Department of Mathematics, Columbia University</i> Assisted Professor Shotaro Makisumi and Professor Zachary Sylvan in the course "Analysis and Optimization" (80 to 100 students per section; two sections per semester). Held weekly office hours in the Math Help Room and answered course-related questions</p>	<p>New York, NY 9/2017-5/2018</p>

from basic topology, linear algebra to constrained optimization and calculus of variations; graded homework assignments and helped the instructors with course logistics.

### Undergraduate Tutor

*Department of Statistics, Columbia University*

Held weekly office hours in the Stat Help Room, answered questions related to introductory statistical courses from the survey design to the intuition of confidence intervals and p-values and shared tips with students on exam preparation.

New York, NY

9/2017-5/2018

### PROFESSIONAL EXPERIENCE

#### Short-Term Consultant

*The World Bank*

Collaborated with the Jordan Macroeconomics, Trade, & Investment (MTI) team on fiscal and economic analysis. Updated the debt and fiscal databases; provided the team with daily oil price updates; revamped the government arrears workbook; conducted weekly economic monitor updates and automated data updates with R, reducing processing time from over 30 minutes to under 5 minutes. Contributed four box ideas for the Jordan Economic Monitor and supported the Jordan Debt Sustainability Analysis (DSA). Upgraded training files, corrected analytical tool errors, used by the team and helped with other miscellaneous tasks.

D.C. (remote)

9/2021-9/2021

#### Program Coordinator

*GEC Academy*

Co-organized the Wall Street Training Program. Prepared the program guidebook, pre-training materials and assignments. Directed a 10-day roadshow workshop featuring daily discussion sessions, achieving the highest satisfaction score from students. Provided tailored feedback for participants and compiled the program report.

Beijing, China

7/2017-8/2017

### HONORS AND AWARDS

#### Columbia University:

The Phi Beta Kappa Society Member

2019

Joseph and Norma Preziosi Endowed Scholarship

2018

The Honor Society of the School of General Studies Fellow

2018

General Studies Scholarship

2017

New Student Scholarship

2016

Dean's List

All semesters

#### City University of Hong Kong:

College of Science and Engineering Dean's Scholarship

2017

Chow Sang Sang Group Scholarship for CityU-Columbia U Joint Degree Program

2016

HKSAR Government Scholarship

2015/16

CityU Mainland Student Scholarship Scheme - Full Tuition Scholarship

2014/15/17

Chan Feng Men-ling Chan Shuk-lin ELC Scholarship

2014

Dean's List

All semesters

### OTHER ACADEMIC EXPERIENCE

**Tsinghua University, The Yau Mathematical Sciences Center**

Visiting Student

Beijing, China

7/2017-8/2017

**Peking University, The Globex Julmester Program**

Student, GPA: 4.0

Beijing, China

6/2016-7/2016

### COMMUNITY SERVICE

**Student Ambassador, Chan Feng Men-ling Chan Shuk-lin Language Centre, Hong Kong**

2/2015-5/2016

**Volunteer, City-Youth Empowerment Project, Hong Kong**

9/2015-12/2015

**Volunteer, Jewish Care, London**

5/2015-6/2105

### NEWSPAPER ARTICLES

"Hong Kong's Covid-19 testing regime must be refined so that it's not all stick, no carrots," *SCMP*, Feb 4, 2021

"Why death of George Floyd should make the world take a good look at itself," *SCMP*, Jun 14, 2020

"For Hong Kong, the only way out of a prisoner's dilemma is to give and take," *SCMP*, Nov 29, 2019

### SKILLS & LANGUAGES

**Programming:** Python (*PyTorch, pandas, scikit-learn, Matplotlib etc.*), R, OxMetrics, MATLAB, Stata

**Document Processing:** LaTeX, Notion, Word, PowerPoint, Excel

**Languages:** English (*fluent*), Mandarin (*native*), Cantonese (*fluent in listening*)

### WEBSITE

<https://sites.google.com/view/bingchenwang>