

Kevin Christian Wibisono

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Research Interests

- Transformers and in-context learning
- Causal inference with text data
- Regression discontinuity designs

Education

University of Michigan

Ann Arbor, MI, USA

PH.D. IN STATISTICS (GPA: 4.00/4.00)

2021 - 2026 (expected)

- Supervised by Yixin Wang, Ph.D.
- Received the *Rackham International Student Fellowship* for demonstrating exceptional academic and professional promise.

Columbia University

New York, NY, USA

M.S. IN DATA SCIENCE (GPA: 4.00/4.00)

2019 - 2020

- Capstone project: *Improving Automatic Event Understanding Through Sequential and Non-sequential Deep Learning Architectures* (supervised by Yuval Marton, Ph.D. and Asad Basheer Sayeed, Ph.D.).

National University of Singapore

Singapore

B.SC. (FIRST CLASS HONORS) IN APPLIED MATHEMATICS AND STATISTICS (GPA: 4.90/5.00)

2015 - 2019

- Honors thesis: *Approximate Solutions to the Multivariate Behrens-Fisher Problem* (supervised by Zhang Jin-Ting, Ph.D.).
- Completed the *Special Programme in Mathematics*, a program specially designed for students with a strong passion and aptitude for mathematics.
- Received the *Ho Family Prize* as the best student in Applied Mathematics.

Publications

ACCEPTED

Wibisono, K. C. and Wang, Y. (2023). *On the Role of Unstructured Training Data in Transformers' In-Context Learning Capabilities*. NeurIPS Workshop on Mathematics of Modern Machine Learning.

Wibisono, K. C. and Wang, Y. (2023). *Bidirectional Attention as a Mixture of Continuous Word Experts*. Uncertainty in Artificial Intelligence (acceptance rate: 31%).

UNDER REVIEW

Ignaccolo, C., Wibisono, K. C., Plunz, R., and Sutton, M. *Tweeting During the Pandemic in New York City: Unveiling the Evolving NYC's Sentiment Landscape Through a Spatiotemporal Analysis of Geolocated Tweets*.

IN PREPARATION

Wibisono, K. C., Mukherjee, D., Banerjee, M., and Ritov, Y. *Estimation of Non-randomized Heterogeneous Treatment Effects in the Presence of Unobserved Confounding Variables*.

Teaching Experience

RESEARCH MENTOR, University of Michigan

1. Undergraduate Research Program in Statistics (URPS)

Winter 2024

- Supervise two undergraduate students in a research project on investigating language models' abilities to encode geographical information.

GRADUATE STUDENT INSTRUCTOR, **University of Michigan**

1. *STATS 306: Introduction to Statistical Computing* (upper undergraduate level) Fall 2023
 - Designed and taught weekly lab sections (~40 students), held office hours, prepared and graded homework, and graded exams.
2. *STATS 206: Introduction to Data Science* (lower undergraduate level) Fall 2022 and Winter 2023
 - Taught weekly lab sections (~40 students), held office hours, and graded homework and exams.
3. *STATS 415: Data Mining and Statistical Learning* (upper undergraduate level) Winter 2022
 - Designed and taught weekly lab sections (~40 students), held office hours, and graded homework and exams.
4. *STATS 250: Introduction to Statistics and Data Analysis* (lower undergraduate level) Fall 2022
 - Taught weekly lab sections (~40 students), held office hours, and graded homework and exams.

TEACHING ASSISTANT, **Columbia University**

1. *INAF U6614: Data Analysis for Policy Research Using R* (graduate level) Fall 2020
 - Designed and taught weekly lab sections (~20 students), developed course website, held office hours, and graded homework and projects.
2. *CSOR W4231: Analysis of Algorithms* (upper undergraduate/graduate level) Spring 2020
 - Held office hours, and graded homework and exams.

TEACHING ASSISTANT, **National University of Singapore**

1. *MA1512: Differential Equations for Engineering* (lower undergraduate level) AY 2018/19 Semester 2
 - Designed and taught weekly tutorial classes (~60 students), and held office hours.
2. *MA1100: Fundamental Concepts of Mathematics* (lower undergraduate level) AY 2018/19 Semester 1
 - Designed and taught weekly tutorial classes (~60 students), held office hours, and graded exams.

Work Experience

Walmart (Sam's Club)

Bentonville, AR, USA

DATA ANALYST 2 (JUNIOR DATA SCIENTIST)

Feb - Jun 2021

- Enhanced Sam's Club fraud detection system via model stacking and improved feature engineering, resulting in a reduction of approximately 30% in financial losses.

DATA SCIENTIST INTERN

Jun - Aug 2020

- Adapted natural language processing techniques to develop item-scoring algorithms aimed at guiding each club's price investment decisions, and implemented them using PySpark.

Portcast

Singapore

DATA SCIENTIST INTERN

May - Aug 2018

- Developed methods for improving cargo demand forecasting models for several prominent global shipping companies, and implemented them using Python.

Centre for Social Development Asia, National University of Singapore

Singapore

RESEARCH INTERN

May - Aug 2017

- Collaborated with a multidisciplinary team of undergraduate students to analyze the state of charity governance in Singapore, resulting in the publication *An Overview of Charity Governance in Singapore*.

Traveloka

Jakarta, Indonesia

DATA ANALYST INTERN

May - Jul 2016

- Developed SQL dashboards to summarize the effectiveness of organic searches in generating hotel sales.

Awards

- 2023 **Rackham International Student Fellowship**, University of Michigan
- 2020 **Top 1.5%**, Baidu and Xi'an Jiaotong University International Big Data Competition
- 2019 **Second Runner-Up**, Columbia University Data Science Hackathon
Ho Family Prize (Best Applied Mathematics Graduate), National University of Singapore
- 2017 **Top 250**, William Lowell Putnam Mathematical Competition
First Runner-Up, ALMA College Mathematics Challenge
Eighth Place, Virginia Tech Regional Mathematics Contest
- 2015 **Undergraduate Scholarship (Full Funding)**, Singapore Ministry of Foreign Affairs
- 2014 **Silver Medal**, Asian Pacific Mathematics Olympiad
- 2013 **Bronze Medal**, International Mathematical Olympiad
Silver Medal, Asian Pacific Mathematics Olympiad
- 2009 **Satyalancana Wira Karya (Medal for Providing an Example of Meritorious Personality)**,
Government of the Republic of Indonesia

Presentations and Posters

PRESENTATIONS

- 2023 **Joint Statistical Meetings**, Toronto, ON, Canada

POSTERS

- 2023 **NeurIPS Workshop on Mathematics of Modern Machine Learning**, New Orleans, LA, USA
- 2023 **Michael Woodroffe Memorial Conference**, Ann Arbor, MI, USA
- 2023 **Uncertainty in Artificial Intelligence (UAI)**, Pittsburgh, PA, USA
- 2023 **ICSA Applied Statistics Symposium**, Ann Arbor, MI, USA
- 2023 **Midwest Machine Learning Symposium**, Chicago, IL, USA

Outreach and Professional Development

SERVICE AND OUTREACH

- 2023 **Neural Information Processing Systems**, Volunteer
- 2023 **ICSA Applied Statistics Symposium**, Volunteer
- 2021 - 2022 **University of Michigan Indonesian Society**, Events Director
- 2020 **Columbia University Data Science Institute**, Student Ambassador and Mentor
- 2019 - 2020 **Columbia Indonesian Society**, Assistant Vice President of Training and Development
- 2015 - 2017 **NUS-British Petroleum Mentoring**, Treasurer and Mentor

CONFERENCES REFEREED

- 2023 - 2024 **Artificial Intelligence and Statistics (AISTATS)**

Computing Skills

- Proficient in Python (including Tensorflow, Pandas, Numpy and PySpark), R (including tidyverse), and SQL.