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 Artifical Intelligence (acceptance rate: 31%).

Under Review

Ignaccolo, C., Wibisono, K. C., Plunz, R., and Sutto, 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. *Peihao Li and Terry Shi* *Winter 2024*

   - Undergraduate Research Program in Statistics (URPS) 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   *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 Woodroofe 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, R, and SQL.