

# Kevin Christian Wibisono

Department of Statistics, University of Michigan

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## Research Interests

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- Transformers and in-context learning.
- Causal inference with text as treatment or outcome.
- Regression discontinuity designs.

## Computing Skills

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

## Education

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### University of Michigan

Ann Arbor, MI, USA

PH.D. IN STATISTICS (GPA: 4.00/4.00; ADVISOR: DR YIXIN WANG)

2021 - 2026 (expected)

- Received the *Rackham International Student Fellowship* for demonstrating exceptional academic and professional promise.
- Received one of the *International Biometric Society Eastern North American Region's Distinguished Student Paper Awards*.

### 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

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### ACCEPTED

Wibisono, K. C. and Wang, Y. (2024). *From Unstructured Data to In-Context Learning: Exploring What Tasks Can Be Learned and When*. *Neural Information Processing Systems* (acceptance rate: 26%).

Ignaccolo, C., Wibisono, K. C., Plunz, R., and Sutto, M. (2024). *Tweeting During the Pandemic in New York City: Unveiling the Evolving NYC's Sentiment Landscape Through a Spatiotemporal Analysis of Geolocated Tweets*. *Journal of Urban Technology*.

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%).

### SUBMITTED OR IN PREPARATION

Wibisono, K. C., Mukherjee, D., Banerjee, M., and Ritov, Y. *Estimation and Inference for the Average Treatment Effect in a Score-Explained Heterogeneous Treatment Effect Model*.

Wibisono, K. C. and Wang, Y. *Causal Inference with Text-Based Treatments and Outcomes*.

Wibisono, K. C. and Wang, Y. *Sequential Data Modeling via Exponential Family Embeddings with Attention*.

## Work Experience

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### Uber

Sunnyvale, CA, USA

#### PHD SOFTWARE ENGINEER INTERN (RIDER STRUCTURAL PRICING)

May - Aug 2024

- Applied causal inference techniques to analyze the paycheck effect and its impact on demand and price elasticity.
- Enhanced Uber's demand model by adding paycheck features, improving predictive performance and business metrics.
- Implemented and refined large language model-based data augmentation methods, achieving notable improvements in test AUC and accuracy based on experiments conducted on Uber's demand data.

### Walmart (Sam's Club)

Bentonville, AR, USA

#### JUNIOR DATA SCIENTIST (FRAUD)

Feb - Jun 2021

- Improved fraud detection system via model stacking and feature engineering, reducing financial losses by around 30%.

#### DATA SCIENTIST INTERN (PRICING)

Jun - Aug 2020

- Developed item-scoring algorithms to inform strategic price investment decisions for each Sam's Club.
- Adapted and implemented natural language processing algorithms to improve item elasticity predictions.

### Portcast

Singapore

#### DATA SCIENTIST INTERN

May - Aug 2018

- Devised methods to improve existing cargo demand forecasting models of leading shipping companies.
- Enhanced forecasting accuracy via market signal experimentation, reducing mean absolute percentage errors by 5 to 15%.

### 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 dashboards to summarize the effectiveness of organic searches in generating hotel sales.

## Teaching and Mentorship Experience

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### RESEARCH MENTOR, University of Michigan

#### 1. Undergraduate Research Program in Statistics (URPS)

Winter and Fall 2024

- Supervised three undergraduate students in a research project exploring large language models' geographical knowledge. Currently leading a follow-up project on the same topic.

### 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.

## Awards

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- 2024 **ENAR Distinguished Student Paper Award**, International Biometric Society
- 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 Graduate in Applied Mathematics)**, National University of Singapore
- 2017 **Top 250**, William Lowell Putnam Mathematical Competition  
**First Runner-Up**, ALMA College Mathematics Challenge
- 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

## Posters and Presentations

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### POSTERS

- 2024 **Neural Information Processing Systems (NeurIPS)**, Vancouver, BC, Canada  
**Midwest Speech and Language Days**, Ann Arbor, MI, USA  
**Michigan Student Symposium for Interdisciplinary Statistical Science**, Ann Arbor, MI, USA  
**NeurIPS Workshop on Mathematics of Modern Machine Learning**, New Orleans, LA, USA
- 2023 **Michael Woodroffe Memorial Conference**, Ann Arbor, MI, USA  
**Uncertainty in Artificial Intelligence (UAI)**, Pittsburgh, PA, USA  
**ICSA Applied Statistics Symposium**, Ann Arbor, MI, USA  
**Midwest Machine Learning Symposium**, Chicago, IL, USA

## PRESENTATIONS

- 2024 **Joint Statistical Meetings**, Portland, OR, USA  
**Michigan Student Symposium for Interdisciplinary Statistical Science**, Ann Arbor, MI, USA
- 2023 **Joint Statistical Meetings**, Toronto, ON, Canada

## Outreach and Professional Development

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### SERVICE AND OUTREACH

- 2023 **Neural Information Processing Systems**, Volunteer  
**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

### JOURNALS, CONFERENCES AND WORKSHOPS REFEREED

- 2024 **Cities**  
**Neural Information Processing Systems (NeurIPS)**  
**ICML Workshop on In-Context Learning**  
**ICML Workshop on Theoretical Foundations of Foundation Models**
- 2023 - 2024 **Artificial Intelligence and Statistics (AISTATS)**