

# Tiffany Ding

✉ tiffany\_ding@berkeley.edu • 🌐 tiffanyding.github.io

## Education

### University of California, Berkeley

*Ph.D. Student, Statistics*

Advisor: Michael I. Jordan

**Berkeley, CA**

2021 – Present

### Brown University

*Master of Science, Computer Science*

Advisor: Stephen Bach

**Providence, RI**

2020 – 2021

### Brown University

*Bachelor of Science, Applied Math*

GPA: 4.0, magna cum laude

**Providence, RI**

2017 – 2021

## Publications

- [1] P. Yu, **T. Ding**, and S. H. Bach. Learning from multiple noisy partial labelers. *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2022.
- [2] **T. Ding\***, S. Kumar\*, and S. Shaw\*. A seabird population model to evaluate plastic pollution policies. *The UMAP Journal of Undergraduate Mathematics and Its Applications*, 41(3), 2020.
- [3] **T. Ding** and E.S. Chen. Mining drugs and indications for suicide-related adverse events. In *AMIA Annual Symposium Proceedings*, volume 2019. American Medical Informatics Association, 2019.

\*equal contribution

## Experience

### Research.....

#### Brown University, Dept. of Computer Science

*Master's Project*

Advisor: Stephen Bach

**Providence, RI**

Mar 2020 – May 2021

- Designed method for performing weakly supervised machine learning in non-stationary environments by leveraging ideas from Bayesian changepoint detection.
- Implemented method using Python and Stan and performed evaluation on real and synthetic data sets.
- Developed a proof of generic identifiability for a generative model of multi-class labels from multiple labeling sources.

#### Brown University, Dept. of Applied Math

*Honors Thesis*

Advisor: Charles (Chip) Lawrence

**Providence, RI**

Jan 2020 – Present

- Ongoing research on using Gaussian processes and state space models to infer historical sea levels using geological proxies.

**Brown Center for Biomedical Informatics***Undergraduate Researcher*

Advisor: Elizabeth Chen

- Used Python to create predictive models for suicide risk and compared performance of various data oversampling techniques.
- Applied association rule learning to FDA data using Julia to discover drug-drug interactions that increase suicide risk.

**Providence, RI***Sep 2018 – Jan 2020***Brown University, Dept. of Economics***Research Assistant*

Advisor: Emily Oster

- Summarized key findings of hundreds of scientific papers related to biology and public health.
- Performed preliminary steps of meta-analysis by calculating standardized mean difference using results of published studies.

**Providence, RI***Sep 2019 – Dec 2019***Industry****Johns Hopkins University Applied Physics Laboratory***Machine Learning Research Intern***Remote***Summer 2020, Winter 2021*

- Adapted contrastive learning methods to object detection setting and developed prototype model by combining ideas from YOLOv4 (Bochkovskiy et al., 2020) and BYOL (Grill et al., 2020).
- Trained and applied calibration methods to Softmax vectors to improve estimates of object detector uncertainty.
- Designed algorithm to apply hierarchical classification methods to object tracking setting and improved accuracy by 13% compared to baseline methods.
- Collaborated with other interns to develop heuristic-based algorithm for device deduplication using WiFi access data.

**Facebook, Inc.***Data Science Intern***Menlo Park, CA***Summer 2019*

- Conducted analyses on large datasets using SQL, Python, and Excel and created useful metrics and data visualizations.
- Effectively communicated findings through write-ups and presentations to team members and other interns.

**Fellowships and Awards****NSF Graduate Research Fellowship***National Science Foundation**2022-Present***Jerome L. Stein Memorial Award for Undergraduate Excellence***Brown University, Dept. of Applied Math**May 2021***2nd Place, East Coast Regional Datathon***Citadel and Citadel Securities**Sep 2020*

- Awarded \$2,500 cash prize for identifying the optimal target audience for maximizing movie profitability.

**Outstanding Paper, Interdisciplinary Contest for Modeling***Consortium for Mathematics and Its Applications**Feb 2020*

- One of 18 winners out of 7,000+ teams in international math modeling competition.

**1st Place, Brown Math Contest for Modeling***Brown University, Dept. of Applied Math**Nov 2019***Rewriting the Code Fellow***Rewriting the Code**Jun 2018 – May 2021***Grace Hopper Scholar***AnitaB.org**Oct 2019*

## Teaching Experience

---

### Graduate Student Instructor

*University of California, Berkeley*

- DATA 102: Data, Inference, and Decisions (Spring 2022)

### Undergraduate Teaching Assistant

*Brown University*

- DATA 2080: Data and Society (Spring 2021)
- DATA 1050: Data Engineering (Fall 2019)
- CSCI 0040: Introduction to Scientific Computing and Problem Solving (Spring 2019)
- CSCI 0170: Computer Science: An Integrated Introduction (Fall 2018)

## Outreach and Service

---

### Diversity Committee Vice Chair

*Statistics Graduate Student Association, University of California, Berkeley*

*Sep 2022 – Present*

- Organize community-building events for women in statistics.
- Run department reading group that discusses papers on diversity-related issues.

### Service Committee Member

*Statistics Graduate Student Association, University of California, Berkeley*

*Sep 2021 – Present*

- Organize PhD application workshops and graduate student panels for undergraduate students.

### Co-organizer

*Berkeley Statistics Fellowships Workshop, University of California, Berkeley*

*Sep 2022 – Present*

### Mentor

*NSF GRFP Workshop, Office of Graduate Diversity, University of California, Berkeley*

*Sep 2022 – Present*

### Mentor

*Statistics Graduate-Undergraduate Program, University of California, Berkeley*

*Nov 2021 – Present*

### Judge

*ENVISION Research Competition by WiSTEM*

*Feb 2022*

### Undergraduate President

*Association of Women in Mathematics, Brown University*

*Jun 2020 – May 2021*

### Mentor

*Women in Science and Engineering, Brown University*

*Sep 2018 – May 2021*

### Mentor

*Women in Computer Science, Brown University*

*Sep 2019 – May 2021*

### Mentor

*Matched Advising Program for Sophomores, Brown University*

*Sep 2019 – May 2021*

### Mentor

*Rewriting the Code*

*Aug 2020 – May 2021*

### Head Photo Editor

*Brown Daily Herald*

*Jan 2019 – Dec 2019*

## Computer skills

---

### Coding languages:

- Advanced: Python
- Intermediate: R, MATLAB, SQL, Julia
- Beginner: C, Scala, HTML/CSS, OCaml, Java

**Additional Skills:** TensorFlow 2.0, Git, Stan, Tableau, Microsoft Excel, Adobe Photoshop, L<sup>A</sup>T<sub>E</sub>X

*Last updated Sep 2022*