TIFFANY DING

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EDUCATION

Brown University *Providence, RI* • Expected graduation May 2021

- *Degrees:* Sc.B. in Applied Math, Sc.M. in Computer Science Cumulative GPA*:* 4.0/4.0
- *Relevant Coursework:* Machine Learning, Deep Learning, Computer Vision, Computer Systems, Statistical Inference, Linear Algebra, ODEs, PDEs, Real Analysis, Computational Prob. & Stats., Econometrics, Computational Biology

RESEARCH & DATA SCIENCE EXPERIENCE

Machine Learning Research Intern, Johns Hopkins University Applied Physics Laboratory *Remote* • Jun 2020 – Aug 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%.
- Collaborated with other interns to develop heuristic-based algorithm for device deduplication using WiFi access data.

Undergraduate Researcher, Brown Center for Biomedical Informatics *Providence, RI* • Sep 2018– Jan 2020

- 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.

Research Assistant, Brown University Dept. of Economics *Providence, RI* • Sep 2019 – Dec 2019

- 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.

Data Science Intern, Facebook Inc. *Menlo Park, CA* • Jun 2019 – Aug 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.

PROGRAMMING & MODELING PROJECTS

Outstanding Paper – Interdisciplinary Contest for Modeling , COMAP *Providence, RI* • Feb 2020

- Determined an optimal policy for reducing plastic pollution using dynamic seabird population model and named one of 18 winners out of over 7,000 teams in international mathematical modeling competition.

Deep Learning Phishing Detection Model, Brown University *Providence, RI* • Nov 2019 – Dec 2019

- Implemented a convolutional NN using TensorFlow 2.0 to identify phishing website URLs with test accuracy of 96.2%.

Context Sensitive Hidden Markov Model, Brown University *Providence, RI* • Dec 2019

- Created a Python implementation of the optimal alignment algorithm for context sensitive hidden Markov models.

1st Place – Brown Mathematical Contest for Modeling, Brown University *Providence, RI* • Nov 2019

- Formulated an optimal policy for bottled water distribution in the aftermath of the Flint water crisis by modeling the spread of trust in water quality using an infectious disease model (SIR model) and wrote an 18-page report.

Search Engine, Brown University *Providence, RI* • Mar 2018

- Designed and implemented an algorithm in Scala that efficiently processes text files containing thousands of Wikipedia articles so that when users enter a query, they receive the ten most relevant articles based off TF-IDF and PageRank.

LEADERSHIP & COMMUNITY ENGAGEMENT

CSCI 0170, CSCI 0040, and DATA 1050 Teaching Assistant, Brown University *Providence, RI* • Aug 2018 – Dec 2019

- Taught weekly sections; developed assignments in Python, MATLAB, Racket, and OCaml; and held office hours for students in an introductory computer science course, a scientific computing course, and a Master's level data science course.

Head Photo Editor, Brown Daily Herald *Providence, RI* • Jan 2018 – Dec 2019

- Managed team of over 12 staff photographers and served as liaison between photographers and editorial team.

PUBLICATIONS & SKILLS

Publications **T. Ding** and E. Chen. "Mining drugs and indications for suicide-related adverse events." *AMIA Annual Symposium Proceedings*. Vol. 2019. American Medical Informatics Association, 2019.

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*. [To appear Sep 2020] *equal contribution

Coding Languages Python (*advanced*) | R • MATLAB • SQL • Julia • Java (*intermediate*) | Scala • OCaml • C • HTML/CSS (*basic*)

Additional Skills TensorFlow 2.0, Git, Tableau, Microsoft Excel, Adobe Photoshop, LaTeX

Honors Rewriting the Code Fellow (2018 – Present), Grace Hopper Scholar (2019)