Dhanya Sridhar

CONTACT INFORMATION

Mila-Quebec AI Institute, F.04
6666 Rue St. Urbain
Montréal, QC, Canada

dhanya.sridhar@mila.quebec
https://www.dsridhar.com

EDUCATION

Ph.D. Computer Science

University of California Santa Cruz (September 2013 – August 31, 2018)

- *Thesis topic*: Learning Structured and Causal Probabilistic Models for Computational Science
- *Thesis Advisor*: Prof. Lise Getoor

B.S. Computer Science, B.A. Mathematics

Binghamton University (August 2009 – May 2013)

- *Distinction*: Graduated with High University Honors and Department Honors

APPOINTMENTS

Assistant Professor, *Université de Montréal* — **January 2022 – present**
Core Academic Member, *Mila-Quebec AI Institute* — **January 2022 – present**
Canada CIFAR AI Research Chair — **January 2022 – present**
Postdoctoral Researcher, *Columbia University* — **October 2018 – October 2021**

JOURNAL ARTICLES

Dhanya Sridhar and David Blei. "Causal Inference from Text: A Commentary." Science Advances. 2022.

Gemma Moran, **Dhanya Sridhar**, Yixin Wang, David M. Blei. "Identifiable Variational Autoencoders via Sparse Decoding." In Transactions on Machine Learning Research (TMLR). 2022.

Amir Feder, Katherine A. Keith, Emaad Manzoor, Reid Pryzant, **Dhanya Sridhar**, Zach Wood-Doughty, Jacob Eisenstein et al. "Causal inference in natural language processing: Estimation, prediction, interpretation and beyond." In *Transactions of the Association for Computational Linguistics* (TACL). 2022.

Dhanya Sridhar, Hal Daumé III, David Blei. "Heterogeneous Supervised Topic Models." In *Transactions of the Association for Computational Linguistics* (TACL). 2022.

Dhanya Sridhar, Shobeir Fakhraei, Lise Getoor. "A Probabilistic Approach for Collective Similarity-based Drug-Drug Interaction Prediction." In *Bioinformatics*. 2016.

REFEREED CONFERENCES

Dhanya Sridhar, Caterina De Bacco, David Blei. "Estimating Social Influence from Observational Data." In *Causal Learning and Reasoning* (CLeaR). 2022.

Claudia Shi, **Dhanya Sridhar**, Vishal Misra, David Blei. "On the Assumptions of Synthetic Control Methods." In *Artificial Intelligence and Statistics* (AISTATS). 2022.

Jason Hartford, Victor Veitch, **Dhanya Sridhar**, Kevin Leyton-Brown. "Valid Causal Inference with (Some) Invalid Instruments." In *International Conference on Machine Learning* (ICML). 2021.

Reid Pryzant, Dallas Card, Dan Jurafsky, Victor Veitch, **Dhanya Sridhar**."Causal Effects of Linguistic Properties." In *North American Chapter of the Association for Computational Linguistics* (NAACL-HLT). 2021.

Aaron Schein, Keyon Vafa, **Dhanya Sridhar**, Victor Veitch, James Moffet, Jeffrey Quinn, Naseem Makiya, David Blei, Donald Green. "A Digital Field Experiment Reveals Large Effects of Friend-to-Friend Texting on Voter Turnout." In *The Web Conference* (WWW). 2021.

Victor Veitch*, **Dhanya Sridhar***[1], David Blei. "Adapting Text Embeddings for Causal Inference." In *Uncertainty in Artificial Intelligence* (UAI). 2020.

Dhanya Sridhar, Lise Getoor. "Estimating Causal Effects of Tone in Online Debates." In *International Joint Conference of Artificial Intelligence* (IJCAI). 2019.

Dhanya Sridhar, Jay Pujara, Lise Getoor. "Scalable Probabilistic Causal Structure Discovery." In *International Joint Conference of Artificial Intelligence* (IJCAI). 2018.

Yue Zhang, Arti Ramesh, Jennifer Golbeck, **Dhanya Sridhar**, Lise Getoor. "A Structured Approach to Understanding Recovery and Relapse in AA." In *The Web Conference* (WWW). 2018.

Dhanya Sridhar, James Foulds, Bert Huang, Lise Getoor, Marilyn Walker. "Joint Models of Disagreement and Stance." In *Association for Computational Linguistics* (ACL). 2015.

Under Review

Jason Hartford, Kartik Ahuja, Yoshua Bengio, **Dhanya Sridhar**. "Beyond the injective assumption in causal representation learning."

Yixin Wang, **Dhanya Sridhar**, David Blei. "Adjusting ML Decisions for Equal Opportunity and Counterfactual Fairness." arXiv preprint arXiv:1905.10870.

Refereed Workshops and Symposia

Elliot Layne, **Dhanya Sridhar**, Jason Hartford, Mathieu Blanchette. "Leveraging Structure Between Environments: Phylogenetic Regularization Incentivizes Disentangled Representations." In the Workshop on Causal Representation Learning (CRL). 2022.

Aaron Schein, Keyon Vafa, **Dhanya Sridhar**, Victor Veitch, James Moffet, Jeffrey Quinn, Naseem Makiya, David Blei, Donald Green. "An Experimental Study of Friend-to-Friend GOTV Text Messages in the 2018 US Midterm Elections." In International Conference on Computational Social Science (IC2S2). 2020. [Award for Best Oral Presentation.]

Dhanya Sridhar*, Victor Veitch*, David Blei. "Using Text Embeddings for Causal Inference." In New Directions in Analyzing Text as Data (TADA). 2019. [Selected for oral presentation.]

Yixin Wang, **Dhanya Sridhar**, David Blei. "Equal Opportunity and Affirmative Action with Counterfactual Predictions." In NeurIPS Workshop on Causal ML. 2019. [Selected for oral presentation.]

Dhanya Sridhar, Varun Embar, Golnoosh Farnadi, Lise Getoor. "Scalable Structure Learning for Probabilistic Soft Logic." In ICML Workshop on Statistical Relational AI. 2018.

Dhanya Sridhar, Aaron Springer, Victoria Hollis, Steve Whittaker, Lise Getoor. "Estimating Causal Effects of Exercise from Mood Logging Data." In ICML Workshop on CausalML. 2018.

Dhanya Sridhar, Jay Pujara, Lise Getoor. "Using Noisy Extractions to Discover Causal Knowledge." In NIPS Workshop on Automated Knowledge Base Construction. 2017.

Dhanya Sridhar, Lise Getoor. "Joint Probabilistic Inference of Causal Structure." In ACM SIGKDD Workshop on Causal Discovery. 2016. [Selected for oral presentation.]

[1] Equal contribution

Dhanya Sridhar, James Foulds, Bert Huang, Lise Getoor, Marilyn Walker."Collective Stance and Disagreement Classification in Online Debate Forums." In Baylearn Machine Learning Symposium. 2014. [Selected for oral presentation.]

Dhanya Sridhar, Lise Getoor, Marilyn Walker. "Collective Stance Classification of Posts in Online Debate Forums." In ACL Workshop on Latent Attributes in Social Media. 2014.

Honors

Canada CIFAR AI Chair, 2022.
EECS Rising Star, UC Berkeley, 2020.
President's Dissertation-Year Fellowship, UC Santa Cruz, 2017.
Outstanding Teaching Assistant Award, UC Santa Cruz, 2016.
Advancement to Candidacy with Honors, UC Santa Cruz, 2016.
Graduate Student Fellowship Honorable Mention, NSF, 2015.
Regents' Fellowship, UC Santa Cruz, 2013.
Academic Achievement Honor for Computer Science, Binghamton University, 2013.
Research in Science and Engineering Scholarship, German Academic Exchange Service, 2012.
Thomas J. Watson Memorial Scholarship, IBM Corporation, 2009.

Invited Talks and Panels

Panel on Causal ML for Cellular Biology
Helmholtz/Mila Research Day — October, 2022

Causal Machine Learning
Microsoft Research Montreal — September, 2022
CIFAR Deep Learning + Reinforcement Learning (DLRL) Summer School — July, 2022

Causal Inference and Language
Wallenberg AI, Autonomous Systems and Software Program (WASP) — August, 2022
Summer School on the Synthesis of Human Communication
Mila TechAide AI Conference — April, 2022
Mila Partners Symposium — June, 2022

Causal Effects of Language Aspects
Natural Language Processing and Computational Social Science Seminar — April, 2022

Causal Inference from Text Data
Conference on Health, Inference, and Learning (CHIL) — April, 2022

Beyond Prediction: NLP for Causal Inference
ETH Zurich NLP Seminar — April, 2021
ETH Workshop and Lecture Series in Law and Economics — April, 2021
Simon Fraser University — April, 2021
Google Research – Seattle — March, 2021
Purdue University — March, 2021
University of Montreal — March, 2021
University of Southern California — March, 2021
Northeastern University — March, 2021
University of British Columbia — March, 2021
University of Michigan, — February, 2021
Johns Hopkins University, — February, 2021
Microsoft Research – New England — February, 2021
Microsoft Research – Cambridge — January, 2021
Google Research – Cambridge — December, 2020

Causal Effects in Social Networks and Text
Yahoo Research – NYC — October, 2019

Structured and Causal Probabilistic Models
Stanford University — March, 2018
Columbia University — February, 2018
Microsoft Research – NYC — February, 2018

Probabilistic Soft Logic
Santa Cruz Machine Learning Cooperative — May, 2017
UC Santa Cruz Games and Playable Media Group — October, 2016

Collective Models of Stance and Disagreement in Online Debates
Classification Society Conference — June, 2017

Research Group

Philippe Brouillard, *PhD* — **June 2021 – Present**
Tejas Vaidhya, *MSc* — **September 2022 – Present**
Sophia Gunluk, *MSc* — **September 2022 – Present**

Teaching Experience

Professor, *Université de Montréal* — **Winter 2022**
IFT 6168: Causal Inference and Machine Learning

Recitation Instructor, *Columbia University* — **Fall 2019**
STCS 6701: Foundations of Graphical Models

Teaching Assistant, *University of California Santa Cruz* — **Winter 2015, 2016**
CMPS 140: Introduction to Artificial Intelligence

Professional Activities

Program chair for the Montreal AI Symposium (MAIS). 2022.
Co-organizer of First Workshop on Causal Inference & NLP. *EMNLP Conference.* 2021.
Co-organizer of Data Science Institute Speaker Series. *Columbia University.* 2019.
Volunteer for Data Science Santa Cruz. *UC Santa Cruz.* 2014–2017.

Conference refereeing

Neural Information Processing Systems **(NeurIPS)**, 2017, 2019, 2020, 2021& 2022.
Artificial Intelligence and Statistics **(AISTATS)**, 2019 & 2018.
International Conference for Machine Learning **(ICML)**, 2018.
International Conference on the Web and Social Media **(ICSWM)**, 2018.
The Web Conference **(WWW)**, 2017.
International Joint Conference on Artificial Intelligence **(IJCAI)**, 2016.

Industry Experience

Data Scientist Intern, *Microsoft Corporation – Bellevue.* — **June – Sept. 2016**
Worked with the Bing Ads group to improve text ads.

Data Scientist Intern, *Microsoft Corporation – Bellevue.* — **June – Sept. 2015**
Worked with the Bing Ads group to improve native ads.

References

Prof. Lise Getoor, *University of California, Santa Cruz* (email: `getoor@soe.ucsc.edu`)
Prof. David Blei, *Columbia University* (email: `david.blei@columbia.edu`)
Prof. Hal Daumé III, *University of Maryland, College Park* (email: `hal3@umd.edu`)