Yanna Ding

PORTFOLIO https://dingyanna.github.io

AFFILIATION Department of Computer Science Rensselaer Polytechnic Institute
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EDUCATION **Rensselaer Polytechnic Institute**, Troy, New York, United States

◇ Ph.D. program in Computer Science
Advisor: Prof. Jianxi Gao
GPA: 4.0/4.0   Spring 2022 - Current

University of Toronto, Toronto, Ontario, Canada

◇ Honours Bachelor of Science in Computer Science and Mathematics
GPA: 3.92/4.0   2017 - 2021

RESEARCH
EXPERIENCE

RENSSELAER POLYTECHNIC INSTITUTE

◇ **Reverse Engineering Networked Dynamical Systems**
- Developed and published an efficient algorithm to infer the dynamical parameters via observed system equilibrium
  - Applied the algorithm in a diverse range of fields, including ecology, biology, epidemiology, and neural networks.
- Exploring data-driven approaches to infer the governing dynamics of complex systems from time-series data

◇ **Dimension Reduction for Dynamical Complex Systems**
- Developing effective low-dimensional representation of high-dimensional dynamical complex systems
- Applying dimension reduction approaches to study the conditions for the tipping point leading to network collapses

◇ **Network Inference**
- Developed an approach to infer network structure from system equilibrium

UNIVERSITY OF TORONTO

◇ **Social Network Analysis on Stigmatizing Tweets Related to COVID-19 (with Prof. Syed Ishtiaque Ahmed, University of Toronto)**   2020.05 -

present

Collected and maintained a dataset of 650+ million tweets. Accomplished statistical analysis on stigmatizing tweets, including calculating correlation between proportion of stigmatizing tweets and political status of states in North America. Constructed a network of hashtags and a retweet network of Twitter users, using Python and Gephi, to find influential hashtags and Twitter users in the networks, respectively. Contributed to a submission to the CPHA's COVID-19 & Public Health Forum in April 2021.

◇ **Inter-rater Reliability App Implementation (with Prof. Priyank Chandra, University of Toronto)** 2020.05 - 2020.09

Worked on the algorithms that calculate the degree of agreement among different raters. Implemented a standalone app that computes various inter-coder reliability statistics (e.g., Fleiss' Kappa) using ElectronJS and React.

PUBLICATION ◇ **Learning Network Dynamics via Noisy Steady States**
Yanna Ding, Jianxi Gao, Malik Magdon-Ismail
ASONAM 2023

HONOURS AND ◇ **Mitacs Research Training Award** Fall 2020
AWARDS
◇ **Department of Computer Science, Undergraduate Research Award**
University of Toronto Summer 2020

◇ **Admission Scholarships**, University of Toronto Fall 2017

◇ **Dean's List Scholar**, Faculty of Arts and Science, University of Toronto 2018 - 2021

◇ **The Chancellor's Scholarship** for high academic achievement
St. Hilda's Fund 2019, 2020

SKILLS ◇ Programming in python, LaTeX C, C++, MATLAB, Java and JavaScript.
◇ Relevant courses: Machine Learning and Optimization, Machine Learning from Data, Frontiers in Network Science