

Dayi (David) Li

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Education

- 2020-present **PhD Candidate in Statistical Sciences**, *Department of Statistical Sciences, University of Toronto, Toronto, ON.*
Supervisor: Gwen Eadie, Roberto Abraham, Patrick Brown
- 2018-2020 **Master of Science in Statistics**, *School of Mathematical and Statistical Sciences, Western University, London, ON.*
Supervisors: A. Ian McLeod, Pauline Barmby
- 2014-2018 **Bachelor of Science, Honor Specializations in Financial Modelling**, *School of Mathematical and Statistical Sciences, Western University, London, ON.*

Research Interests

Astrostatistics, Statistical Modelling, Bayesian Computation, Spatial Statistics, Spatial Point Process, Statistical Pattern Recognition

Publications

In Progress

- 2023 **D. Li**, G. Eadie, R. Abraham, P. Brown, J. Speagle, S. Berek, "A Principled Bayesian Estimation of the Globular Cluster counts in Ultra-Diffuse Galaxies using thinned Poisson Point Processes", in progress
- 2023 **D. Li**, G. Eadie, R. Abraham, P. Brown, "Detecting Ultra-Diffuse Galaxies in the Nearby Universe during the Age of Gaia DR3", in progress
- 2023 **D. Li**, Z. Zhang, A. Stringer, G. Eadie, P. Brown, R. Abraham, "Fast Inference using Spline Approximation for Detecting Ultra-Diffuse Galaxies by Globular Clusters while Accounting for Uncertainty on Globular Clusters with Data Augmentation", in progress

Submitted

- 2023 **D. Li**, A. Stringer, G. Eadie, P. Brown, R. Abraham, "Poisson Cluster Process Models for Detecting Ultra-Diffuse Galaxies", submitted to the Annals of Applied Statistics

Published

- 2022 **D. Li**, G. Eadie, R. Abraham, P. Brown, W. Harris, S. Janssens, A. Romanowsky, P. van Dokkum, S. Danieli, "Light from the Darkness: Detecting Ultra-Diffuse Galaxies in the Perseus Cluster through Over-densities of Globular Clusters with a Log-Gaussian Cox Process", *The Astrophysical Journal*, 953, 3
- 2020 **D. Li**, P. Barmby, "Gibbs Point Process Model for Young Star Clusters in M33", *Monthly Notices of the Royal Astronomical Society*, 501, 3
- 2020 **Master's Thesis** "Point Process Modelling of Stellar Objects in the M33 Galaxy", Supervisors: Angus Ian McLeod, Pauline Barmby

Awards, Fellowships, & Scholarships

- 2023 Department of Statistical Sciences Doctoral Early Research Excellence Awards, University of Toronto, 1500 CAD
- 2023 Data Sciences Institute Doctoral Student Fellowship, University of Toronto, 25000 CAD/yr
- 2020 CANSSI Multidisciplinary Doctoral Trainee
- 2020 Doctoral Recruitment Award, 10000 CAD
- 2020 E.F. Burton and F. W. Burton Graduate Scholarship Award, 4000 CAD
- 2018-2020 Western Graduate Research Scholarship, 7000 CAD/yr
- 2018 Western Gold Medalist in Financial Modelling
- 2016 Robert and Ruth Lumsden Scholarships In Science, 1000 CAD
- 2015 William Wyatt Scholarships, 1000 CAD
- 2015 Jane Plas International Student Award, 6000 CAD
- 2014-2018 Western Continuing Scholarship, 10000 CAD

Talks, Presentations & Others

Presentations

- 2022 “Poisson Cluster Process Models for Detecting Ultra-Diffuse Galaxies”, CANSSI Ontario Research Day, Toronto, ON
- 2022 “Detecting Ultra-Diffuse Galaxies in the Perseus Cluster using Log-Gaussian Cox Process”, Cluster at McMaster, McMaster University, ON
- 2022 “Light from the Darkness: Detecting Ultra-Diffuse Galaxies in the Perseus Cluster using Log-Gaussian Cox Process”, Advances in Astrostatistics in the Great White North — Invited Session, Joint Statistical Meeting 2022, Washington, DC
- 2020 “Gibbs Point Process Model for Objects in the Star Formation Complexes of M33”, Innovations in Statistics for Astronomy and Space Physics — Topic Contributed Session, Joint Statistical Meeting 2020, Pennsylvania, PA

Telescope Proposals

- 2022 **D. Li**, R. Abraham, S. Danieli, G. Eadie, P. Brown, W. Harris, A. Romanowsky, P. van Dokkum., Gemini Observatory proposal: “Deep Imaging of a Candidate Dark Galaxy in Perseus”, Gemini Consortium.

Teaching

- 2022 Teaching assistant for STA 257, STA 261, STA 347 at UTSG
- 2021 Teaching assistant for STA 220, STA 257, STA 261 at UTSG
- 2020 Teaching assistant for STA 257, STA 261, STA 465 at UTSG

Professional, Administrative, and Extra-curricular Activities

- 2023-present **Founder and Organizer**, *STATistics Research Writing And Reading (STAR WAR) Workshop*, Department of Statistical Sciences, University of Toronto.
Founding and organizing a writing workshop for PhD students in DoSS UofT to promote inclusive and transparent statistical writing practices to foster interdisciplinary data science research.

2021-present **Student Representative**, *Applied Research and Education Seminar (ARES)*, CANSSI Ontario.
Organizing *Meet the Investigator* series between PhD students and invited speakers for an informal discussion.

Research Positions

2020-Present **Department of Statistical Sciences, University of Toronto** Graduate Researcher in Astrostatistics

2020 **Department of Statistical and Actuarial Sciences, Western University** Post-Graduate Researcher in Astrostatistics

2018-2020 **Department of Statistical and Actuarial Sciences, Western University** Graduate Research Assistant

Languages

English Fluent
Mandarin Native