David Landsman

Toronto, ON

Education

University of Toronto
MSc in Applied Computing September 2020 | Present
Toronto, ON

- Vector Scholarship in Artificial Intelligence Recipient 2020-21

Honours BSc in Computer Science, GPA: 3.86 September 2015 | April 2019
Toronto, ON

- Graduated with **High Distinction**
- Minors in **Statistics** and **Mathematics**

Experience

Center for Urban Science and Progress, New York University
Research Affiliate October 2019 | Present
Brooklyn, NY

- Applied clustering methods to urban commute and social activity networks
- Analyzed regional socio-economic outcomes based on cluster structures
- Researched representation learning approaches in complex networks
- Evaluated feature mappings of complex networks

MAP Centre for Urban Health Solutions, St. Michael's Hospital
Research Coordinator October 2019 | Present
Toronto, ON

- Developed rule-sets for extracting clinical variables from electronic health records
- Created clinical database for tuberculosis patients from electronic health records
- Wrote automation scripts for scraping and aggregating COVID-19 regional and provincial data
- Built R shiny application for COVID-19 GTA surge planning model
- Analyzed heterogeneity in prelavence and testing of COVID-19 across different outbreak settings

MAP Centre for Urban Health Solutions, St. Michael's Hospital
Research Affiliate May 2018 | August 2019
Toronto, ON

- Investigated linear programming and network flow approaches to clinician scheduling
- Implemented a linear programming formulation to solve scheduling problem
- Developed a scheduling application with a clean and intuitive user interface
- Authored a research paper detailing linear programming approach to scheduling

Note: a portion of the work was done as part of the Keenan Research Summer Student program

CIBC
Intermediate Application Developer May 2017 | August 2017
Toronto, ON

- Collaborated with backend and frontend engineers and business analysts
- Contributed to architectural design and user interface of new application
- Migrated data from decommissioned database
- Rewrote API for downstream applications

CIBC
Application Developer Intern May 2016 | August 2016
Toronto, ON

- Collaborated with a team of developers and business analysts
- Designed user interface per business requirements from clients
- Developed SSRS reports for applications

Conference Papers

Under Review

D. Landsman, P. Kats, A. Nenko, S. Kudinov, and S. Sobolevsky. "Social Activity Networks Shaping St. Petersburg". In: *Proceedings of the 54th Hawaii International Conference on Systems Science*. 2020.

D. Landsman, P. Kats, A. Nenko, and S. Sobolevsky. "Zoning of St. Petersburg Through the Prism of Social Activity Networks". In: *Proceedings of the 9th International Young Scientists Conference in Computational Science*. 2020.

Publications

Published

V. Landsman, **D. Landsman**, C. S. Li, and H. Bang. "Overdispersion models for correlated multinomial data: Applications to blinding assessment". en. In: *Statistics in Medicine* 38.25 (2019). URL: `https://onlinelibrary.wiley.com/doi/abs/10.1002/sim.8344`.

Under Review

S. Mishra, L. Wang, H. Ma, K. C. Yiu, J. M. Paterson, E. Kim, M. J. Schull, V. Pequegnat, A. Lee, L. Ishiguro, E. Coomes, A. Chan, M. Downing, **D. Landsman**, S. Straus, and M. Muller. "Estimated surge in hospitalization and intensive care due to the novel coronavirus pandemic in the Greater Toronto Area, Canada: a mathematical modeling study with application at two local area hospitals". In: *medRxiv* (2020). URL: https://www.medrxiv.org/content/10.1101/2020.04.20.20073023v1.

L. Wang, H. Ma, K. C. Y. Yiu, A. Calzavara, **D. Landsman**, L. Luong, A. K. Chan, R. Kustra, J. C. Kwong, M.-C. Boily, S. Hwang, S. Straus, S. Baral, and S. Mishra. "Heterogeneity in risk, testing and outcome of COVID-19 across outbreak settings in the Greater Toronto Area, Canada: an observational study". In: *medRxiv* (2020). URL: https://www.medrxiv.org/content/10.1101/2020.06.12.20129783v1.

D. Landsman, H. Ma, J. Knight, K. Gough, and S. Mishra. "A flexible integer linear programming formulation for scheduling clinician on-call service in hospitals". In: *arXiv:1910.08526* (2019). URL: http://arxiv.org/abs/1910.08526.

Posters

D. Landsman, A. Abdelbasit, C. Wang, M. Guerzhoy, U. Joshi, S. Mathew, C. Pou-Prom, D. Dai, V. Pequegnat, J. Murray, K. Chokar, M. Banning, M. Mamdani, S. Mishra, and J. Batt. "The Application of Natural Language Processing for Extracting Tuberculosis Variables from Unstructured Dictations". In: *Respirology Research Forum 2020*. URL: https://respirologyresearch.com/research_document/poster-27-david-landsman-ahmed-abdelbasit/.

Skills

Analytical: Algorithm Design, Optimization, Machine Learning, Statistics
Programming: C, C++, C#, Java, JavaScript, R, Python, SQL
(geo)pandas, networkx, matplotlib, scikit-learn, statsmodels, numpy
shiny, dplyr, ggplot2, plotly

Research Interests

Privacy and Security, Natural Language Processing, Representation Learning, Artificial Intelligence

Awards

Vector Scholarship in Artificial Intelligence 2020-21

Innis College Exceptional Achievement Award
University of Toronto 2018
Awarded for outstanding academic performance (GPA 3.7+)

Innis College Exceptional Achievement Award
University of Toronto 2017

Awarded for outstanding academic performance (GPA 3.7+)

Innis College Anniversary Scholarship Award
University of Toronto 2016
Awarded for outstanding academic performance (GPA 3.7+)

President's Entrance Scholarship
University of Toronto 2015
Awarded for outstanding secondary school academic performance on admission