David Dai
DATA SCIENTIST

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Recent Experience

Senior Data Scientist *Toronto, Canada*
DATA SCIENCE & ADVANCED ANALYTICS (FORMERLY LKS-CHART) - ST. MICHAEL'S HOSPITAL *January 2020 - Present*

- Developed and deployed a machine learning pipeline that predicts patient risk of severe hypoglycemia, used for daily in-hospital clinical management of diabetic patients (peer-reviewed publication accepted June 2021)
- Developed and deployed an emergency department forecasting application, used at 5 Ontario hospitals to inform daily staffing decision making
- Developed and deployed a real-time COVID-19 dashboard to help hospital leadership members manage patient flow and resource allocation
- Founded team-wide journal club and 'three tips' sessions for disseminating useful tips amongst team members

Junior Data Scientist *Toronto, Canada*
LKS-CHART - ST. MICHAEL'S HOSPITAL *September 2018 - January 2020*

- Deployed a web application with fully-integrated optimization modeling used at the St. Michael's Hospital Emergency Department for daily nurse assignment. Reduced task time from 2.5 hours daily to 15 minutes, and improved KPI metric by 5 times the baseline
- Developed an automated algorithm that sifts through large amounts of data to identify patients eligible for targeted antimicrobial conversion therapy. Enabled new clinical workflows that were not previously viable, allowing for more efficient care and better patient outcomes

Statistician *Toronto, Canada*
APPLIED HEALTH RESEARCH CENTRE - ST. MICHAEL'S HOSPITAL *July 2016 - September 2018*

- Conducted statistical analysis and consulted on the design of international, multi-center clinical trials, with notable publications in the New England Journal of Medicine and Ophthalmology

Statistical Analyst *Hamilton, Canada*
ST. JOSEPH'S HEALTHCARE HAMILTON *June 2015 - July 2016*

- Lead statistical analyst of a large observational cohort, with notable publications in The Journal of Allergy and Clinical Immunology and The European Respiratory Journal

Education

deeplearning.ai *Coursera*
DEEP LEARNING SPECIALIZATION *2020*

University of Toronto *Toronto, Canada*
MSc, STATISTICS (GPA 4.0/4.0) *2015*

University of Toronto *Toronto, Canada*
HBSc (GPA 3.8/4.0) *2014*

Technical Skills

PROGRAMMING LANGUAGES AND TOOLS

- Python, R, SQL
- HTML/CSS
- Git, Docker/Kubernetes, Unix

DAY-TO-DAY LIBRARIES

- Python: numpy, pandas, pytorch, scikit-learn, xgboost
- R: tidyverse, tidymodels, devtools