



Michal Malyska









Machine Learning Team Lead
Semantic Health

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Links

 My Github
 Academic Website
 LinkedIn





Programming

 **Python** ● ● ● ● ●
 PyTorch TensorFlow
 SpaCy NLTK Transformers
AllenNLP Snorkel
 Pandas Scikit-learn LGBM
 **R** ● ● ● ● ●
 tidyverse RSTAN brms INLA
 **SQL** ● ● ● ● ●
 **VBA SAS** ● ● ● ● ●





Machine Learning –

Natural Language Processing
Semi-Supervised Learning
Information Extraction
Statistical Learning
Explainable ML
Knowledge Graphs

Other

 Git
 Docker MLFlow WandB
 Bash ZSH
 UMLS SNOMED-CT

Contributions

 MedSpaCy
 AllenNLP
 SciSpaCy
 MS-BERT

Work Experience

January 2021 – Present **Machine Learning Team Lead** Semantic Health
Lead research and implementation of the clinical NLP product for a team of 5 ML Scientists from the idea stage to multiple successful client deployments at our clients. I work with the CEO to create and implement the organization's Machine Learning short and long-term vision.

June 2019 – December 2020 **Machine Learning Scientist** Semantic Health
Assessed implemented and improved deep learning algorithms from research and open source repositories to achieve and surpass current state-of-the-art performance on several clinical NLP tasks. Improved the data pipeline and model evaluation procedures for complicated NLP datasets in a highly multi-label setting.

January 2018 – August 2018 **Analyst** Deloitte
Worked client-site on business analytics loss forecasting and predictive modelling for a large insurance client. Created an actionable overview of internal and external data and analytical tools for a large public sector client.

Summer 2017 **Actuarial Analyst** Intact Financial - Belairdirect
Authored an efficient algorithm enabling the company to analyze the inforce business at different points in time. Worked on developing and validating benchmark pricing models.

Education

2019 – 2022 **Master of Science - Statistics** University of Toronto
4.0 GPA

2015 – 2019 **Honours Bachelor of Science - Statistics** University of Toronto
4.0 GPA in Statistics 3.78 overall

Teaching and Extracurricular

Summer 2020 **Course Instructor** University of Toronto
Prepared materials and taught STA220 - Practice of Statistics I to a class of 250 students in an online setting right at the start of the pandemic.

2018 – 2020 **Teaching Assistant** University of Toronto
Prepared and conducted tutorials for a number of courses including: Statistical Methods for Machine Learning Data Analysis II

2020 **Research Visitor** St Michael's Hospital Toronto

Publications

2021 **Active learning for medical code assignment**
arXiv:2104.05741
ACM CHIL 2021 workshop track

2020 **Multiple Sclerosis Severity Classification From Clinical Text**
2020.clinicalnlp 1.2
EMNLP 2020 Clinical NLP workshop

Competitions

2017 – 2019 **1st. Place Mentor** ASA Datafest
Created a business case from click data for Expedia aimed at improving the suggestion engine and customer retention served as a mentor in the subsequent years

October 2017 **1st. Place** McKinsey Open Data Challenge
Created a business case and an MVP aimed at re-routing low urgency patients to hospitals with lowest estimated combined travel and wait time