# 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.
· Work with the CEO to create and implement the organization's Machine Learning short, and long-term vision.
· Supervise a number of research projects with outside organizations resulting in product improvement and scientific publications.

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

## 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