

MAN QING LIANG, PHARM.D., MS, MBI

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EDUCATION

Master in Biomedical Informatics (MBI)

2021 - 2022

Harvard University - Department of Biomedical Informatics

- Graduate Researcher at Zitnik lab - Curating and modeling dose-dependent side effects from adverse event reports
 - Extracted, standardized and cleaned over 13 million reports from the FAERS database with Pandas
 - Leveraged my clinical expertise to iteratively interrogate and refine the extraction process
 - Developed methods to systematically identify and correct unreliable dose and route data using external clinical references
 - Identified 70+ K signals of dose-dependent adverse events and 20+ K signals of dose-dependent drug-drug interactions, to be used for pharmacovigilance research and downstream machine learning tasks
- Graduate Researcher at MIT Critical Data - Measuring the effect of rapid glucose drops on mortality in critically ill patients
 - Extracted and processed clinical data from MIMIC-IV to identify patients who experience rapid glucose drops (SQL, Python)
 - Identified a beneficial impact on mortality using Poisson and logistic regressions after adjusting for confounding variables
- Relevant coursework: Clinical Data Learning, Deep Learning for Biomedical Data, Data Visualization for Biomedical Applications

Undergraduate Certificate in Programming

2020 - 2021

Université de Montréal - Department of Computer Science and Operational Research

- Relevant coursework: Advanced Java programming, Databases, Data Structures

Master in Health Services Administration (M.Sc.)

2019 - 2021

Université de Montréal - School of Public Health

- Master's thesis at LabTNS - Evaluation of a pediatric computerized provider order entry (CPOE) system
 - Designed and carried out a study on the impact of a CPOE system (including analyses of incident reports, clinical workflows and system usability) in collaboration with clinicians and project managers to identify the benefits and risks of the CPOE
 - Presented recommendations for improving patient safety to the project implementation team and pharmacy department
 - Recommendations led to the implementation of CPOE features in the months following the completion of the study
- Co-creator - Development of OCRx, a bilingual Canadian drug ontology (<https://ocrx.umontreal.ca/>)
 - Automated the standardization of unstructured, ambiguous concepts in Health Canada's database with SQL

Doctor of Pharmacy (Pharm.D.) - Honours

2015 - 2019

Université de Montréal - Faculty of Pharmacy

RELEVANT WORK EXPERIENCE

Research Fellow, Gehlenborg Lab at Harvard Medical School

2022 - Current

- Developing a web-based tool and finetuning an object detection model to automatically interpret genomic visualization images

Community Pharmacist, Pharmacie Sébastien Lacroix

2019 - 2021

Data Science Intern, Boehringer-Ingelheim Canada

Summer 2020

- Predicted trial success based on eligibility criteria using natural language processing techniques (Word2Vec, TF-IDF, BERT)
- Generated a Canadian dataset for Synthea, a synthetic patient generator, by processing 2016 Canadian Census data with R
- Designed a RShiny app connected to a Postgres database of clinical trial data to facilitate querying for the biostatistics team

Implementation Support Specialist, CHU Sainte-Justine

2019 - 2020

- Trained and supported physicians and nurses during the implementation of the electronic prescriber

Pharmacometrics Research Intern, Certara Canada

Fall 2018

- Modeled the pharmacokinetics of monoclonal antibodies (mAbs) in oncology to evaluate the relationship between drug target saturation and recommended phase II doses used (results presented at the Pharmaceutical Sciences World Congress 2020)
- Identified the need for novel study designs adapted to the toxicity and pharmacokinetic profiles of mAbs through a literature review

Health Informatics Research Intern, CHUM Research Center

Summer 2018

- Evaluated the current state of e-prescription in Quebec by visualizing electronic prescription usage data using Tableau
- Developed a method to parse dose information from free-text prescriptions (results presented at MedInfo 2019)
 - Defined the gold standard and encoded dosage information for hundreds of complex free-text instructions
 - Trained a named-entity recognition model using spaCy to extract the daily dose of each prescribed drug

SKILLS

Programming and Software: Python (Pandas, NumPy, Matplotlib, Scikit-Learn, PyTorch), R (Tidyverse, RShiny), SQL, Java, HTML/CSS, Git, Tableau, Figma, AWS

Biomedical Informatics: Clinical and genomic data extraction, curation and analysis; natural language processing; medical ontologies; deep learning (CNN, GNN); genome-wide association study (GWAS)

Languages: English, French, Cantonese, Mandarin

SELECTED AWARDS AND PROFESSIONAL SERVICE

Research Scholarships: Canadian Institutes of Health Research 2020, IVADO 2018, University of Montreal 2017, 2020 and 2021

Prizes: PharmaHacks 2019 (#1 out of 13 teams), Canadian Evaluation Society Case Competition 2021 (#1 out of 30 Canadian universities), World Evaluation Case Competition 2021 (#1 out of 10 participating countries), Best Student Paper Finalist at MIE2021 (Top 6 out of 100+ accepted student papers)

Reviewer: ISMB 2022, AMIA Symposium 2022