The VADA Program

Visual and Automated Disease Analytics Graduate Training Program

Summer School 2023 Program

Presentations by leading academics, researchers and professionals in data science and health informatics

About the Visual and Automated Disease Analytics Graduate Training Program

The Visual and Automated Disease Analytics (VADA) graduate training program is a joint initiative between the University of Manitoba and University of Victoria.
The VADA Program aims to train the next generation of health informatics and computational science graduate students to translate complex health data into insights that can be used to improve the health of populations and support health professional decision making. Through the VADA Program, trainees will gain cutting-edge data visualization and analytic skills within a cooperative and experiential learning environment.

The Visual and Automated Disease Analytics Program is completed in one or two years depending on level of study. Graduate students who are admitted into the VADA Program complete the program while concurrently working towards their master's or doctoral degree. Master's students complete the program in one year while doctoral students complete it in two years.

The program is made up of three components:

- The Foundations of Disease Analytics Course;
- The VADA Program Summer School;
- Internship

Program Website:
www.vada.cs.umanitoba.ca
Program Contact:
vada.program@chimb.ca

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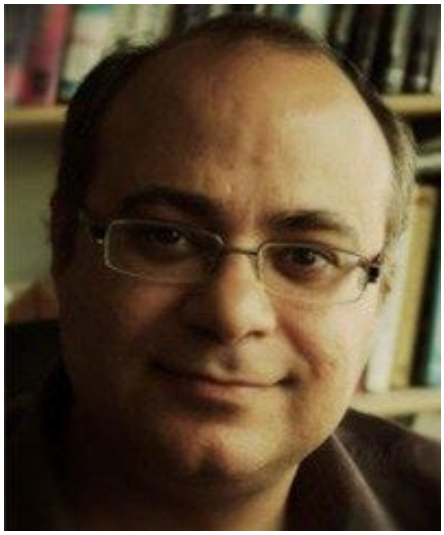
VADA PROGRAM LEADERSHIP TEAM

DR. POURANG IRANI,
UNIVERSITY OF MANITOBA, UNIVERSITY OF BRITISH COLUMBIA



Dr. Pourang Irani is a professor in the Department of Computer Science at the University of British Columbia (Okanagan campus) and Principal's Research Chair in Ubiquitous Analytics. He earned his Ph.D. in Computer Science from the University of New Brunswick in 2002 under the supervision of Dr. Colin Ware. Dr. Irani started his career at the University of Manitoba (UofM) and served there for 19 years as a faculty member in Computer Science and as Acting Associate Dean for the Faculty of Science before moving to UBCO in January 2022. His research lies broadly in the areas of Human-Computer Interaction and Information Visualization. More specifically, his team is concentrating on designing and studying novel interactive systems for sensemaking "anywhere" and "anytime". For advancing this work they rely on mixed reality (MR) and wearable technologies for developing novel prototypes of visual interfaces and devices.

Dr. Lisa Lix,
UNIVERSITY OF MANITOBA

Dr. Lisa Lix is professor and associate head of community health sciences at the University of Manitoba and currently serves on the board of directors of the Canadian Statistical Sciences Institute. Her research has advanced scientific knowledge about bias in disease diagnoses, methods to improve validity of chronic disease case ascertainment methods, and chronic disease risk prediction. Her research has contributed to the scientific rigour of the Canadian Chronic Disease Surveillance System (CCDSS) developed by the Public Health Agency of Canada; she currently serves as co-chair of the data quality working group for the CCDSS and was formerly co-chair of the scientific committee. As director of the data science platform in the George & Fay Yee Centre for Healthcare Innovation, she oversees skilled biostatisticians, bioinformaticians, analysts and database developers who link and analyze clinical, administrative, and biological databases to strategically enhance the provincial and national environments for patient-focused research using electronic health data. She also leads nationally funded training initiatives on big data analytics and artificial intelligence in public/population health. Dr. Lix chairs the algorithms

and harmonized data working group for Health Data Research Network Canada, which supports multi-jurisdiction research using electronic health databases. Dr. Lix has served the Statistical Society of Canada since 2005 in various capacities and was president of the biostatistics section in 2010. She is the 2023 chair of the Health Policy Statistics Section of the American Statistical Association and previously served as program chair for the section..

DR. ANDRE KUSHNIRUK, UNIVERSITY OF VICTORIA

Dr. Andre Kushniruk is Director and Professor of the School of Health Information Science at the University of Victoria. Dr. Kushniruk conducts research in a number of areas including evaluation of the effects of technology, human-computer interaction in health care and other domains as well as cognitive science. His work is known internationally and he has published widely in the area of health informatics. He focuses on developing new methods for the evaluation of information technology and studying human-computer interaction in health care and he has been a key researcher on a number of national and international collaborative projects. His work includes the development of novel methods for conducting video analysis of computer users and he is currently extending this research to remote study of e-health applications and advanced information technologies, including computerized patient record systems. Dr. Kushniruk has held academic positions at a number of Canadian universities and he has taught courses in areas such as human-computer interaction, database management and systems analysis and design. He holds undergraduate degrees in Psychology and Biology, as well as a M.Sc. in Computer Science and a Ph.D. in Cognitive Psychology from McGill University.

DR. ELIZABETH BORYCKI, UNIVERSITY OF VICTORIA

Elizabeth Borycki is a Professor in the School of Health Information Science at the University of Victoria, British Columbia, Canada. Elizabeth is also a Michael Smith Health Research BC Health Professional Investigator, and she currently directs the Global Laboratory for Digital Health Innovation. In the field of health informatics, the focus of her research and publications has been on human factors as it relates to health technology safety, user interface design, workflow and technology implementation in hospital and virtual care

environments. Elizabeth has served as Academic Representative for Canada for Digital Health Canada [formerly Canada's Health Informatics Association (2007-2013)], Vice President representing North America on the Board of Directors for the International Medical Informatics Association (IMIA) (2010-2013), and Vice President - Special Projects for IMIA (2016-2019). Elizabeth is a Fellow of the Canadian Academy Health Sciences Informatics, American Medical Informatics Association, and the International Academy of Health Sciences Informatics of IMIA. In 2017 she was voted one of the Top 10 Women in Digital Health by Digital Health Canada, and was recognized as one of the Top 100 Health Informatics Researchers by IMIA. In 2018 she received the Faculty of Human and Social Development Award for Teaching Excellence and Educational Leadership, Victoria, British Columbia, Canada. In 2021 she was recognized as a pioneer in the field of health informatics by IMIA.

SUMMER SCHOOL SPEAKER BIOGRAPHIES

Monday, June 19th, 2023

9:45AM – 12:15 PM

Introduction to Deep Learning with Applications in Medical Research
SPEAKER: Jasper Zhang

Description: This Workshop led by PhD student Jasper Zhang from the University of Toronto, will focus on convolutional Neural Networks (CNNs) for image data analysis and Long Short-Term Memory (LSTM) networks for processing repeated measurements. Participants will engage in Python coding tasks, including image classification and next-frame prediction, utilizing the Keras library. No prior experience is required; we will provide a line-by-line code explanation for a better understanding. The session will explore the application of deep learning in medical research, introduce strategies for working with diverse medical data types (including image, genomics data, and microbiome data), and offer guidelines for furthering deep learning skills.

Bio: Jasper Zhang is a Ph.D. student in Biostatistics, supervised by Dr. Wei Xu, at the Dalla Lana School of Public Health, University of Toronto, and the University Health Network. His research focuses on Cancer Genomics, Survival Analysis, Deep Learning, and Health Economics, with an emphasis on AI-driven data integration algorithms for analyzing cancer omics data. Prior to this, Jasper received a Master of Science in Biostatistics from the University of Toronto under the supervision of Dr. Wei Xu and Dr. Pingzhao Hu. He published his MSc work in the prestigious Bioinformatics journal. His academic background also includes a Bachelor of Mathematics in Computer Science and Statistics from the University of Waterloo, as well as initial Biostatistics research training at the University of Manitoba.

1:15PM – 2:30 PM

Rethinking Genomic Data Analysis: Modern Statistical and Machine Learning Methods for Overcoming Challenge
Speaker: Dr. Qihuang Zhang

Description: The increasing availability of genomic data offers us opportunities to develop novel statistical and machine-learning methods to enhance our understanding of the molecular basis of human disease and enable effective treatments. However, genomic data pose several challenges for analysis, including excess zeros, noisiness, and spatial relationships. In this talk, I will present two applications that tackle the challenges arising

from genomic data, using statistical methods and machine learning approaches, respectively. In the first application, we focus on
the modeling of zero-inflated count data with measurement error. We demonstrate the implementation of the method in delineating the association between copy number variants and tumor stages, using multi-institutional genomic data with different data qualities. In the second application, we propose a deep learning algorithm to discover the spatial location of cells in scRNA-seq data. This framework can be applied to study the changes in cell distribution in cerebral cortex layers during the progression of Alzheimer's disease.

Bio: Qihuang Zhang is an Assistant Professor at McGill University, department of Epidemiology, Biostatistics, and Occupational Health. He completed his PhD in Statistics at the University of Waterloo between 2017 and 202, under the guidance of Dr. Grace Y. Yi. Prior to joining McGill University, Qihuang gained valuable experience as a postdoctoral researcher working alongside Dr. Mingyao Li and Dr. Rui Xiao at the University of Pennsylvania. In addition, he is a guest editor of the Frontier in Epigenetics and Epigenomics starting in 2023. Qihuang's research primarily focuses on the development of innovative statistical methods for genetic association studies, RNA sequencing, and spatial multi-omics. His work aims to unravel the complexities of data by addressing challenges such as measurement error, misclassification, graphical association structure, and the curse if dimensionality. Recently, Qihuang has been diving into the realm of deep learning with and interest in creating methods to analyze spatial transcriptomics and spatial metabolomics data.

Tuesday, June 20th, 2023

10:45 AM – 12:00 PM

A Primer on Large Language Models and Healthcare
Speaker: Dr. Alistair Johnson

Description: Large language models have become a focus in current research given the widespread adoption of ChatGPT. In this talk, we will introduce large language models and highlight differences in the common architectures. We will then focus on clinical text and the unique aspects of this domain as compared to general text. Recent research in clinically applied large language models will be highlighted and we will end with current promising directions for future work.

Bio: Dr. Johnson is a scientist at the Hospital for Sick Children. He received his Bachelor of Biomedical and Electrical Engineering at McMaster University and successfully read for

DPhil at the University of Oxford. Dr. Johnson is most well-known for his work on the MIMIC-III Clinical Database, a publicly available critical care database used by over 30,000 researchers around the world. His research focuses on the development of new database structures tailored for healthcare and machine learning algorithms for natural language processing, particularly focusing on the deidentification of free-text clinical notes.

Wednesday, June 21st, 2023

8:30AM – 12:00 PM

Python Workshop
Speaker: Eric Marinier

Description: This workshop will introduce software development using Python at an introductory level and will provide some examples to work through that will explore, manipulate, and visualize freely-available public health data. This workshop assumes participants have some basic familiarity with computer programming.

Bio: Eric works as a bioinformatician at the National Microbiology Laboratory in Winnipeg. He uses computer science, statistics, and mathematics to solve problems related to biological sequence data. He primarily develops bioinformatics software and provides support to microbiologists, but also mentors students and lectures on topics in bioinformatics. Recently, Eric has been working on a project that identifies and reports antimicrobial resistance within bacterial genome contigs.

1:00PM – 2:15 PM

Equity in Machine Learning
Speaker: Dr. Shaina Raza

Description: In this lecture, we will explore how to develop and deploy machine learning models in healthcare, with a focus on fairness. We will cover the essential stages of machine learning, starting from data acquisition of diverse health data sources like EHRs. Alongside, we will discuss the significance of addressing fairness concerns in data preprocessing, feature extraction, and model building. The importance of model validation and testing will be highlighted, with an emphasis on the need for fair and unbiased evaluations. We will discuss a typical machine learning pipeline and how we can incorporate fairness during different

stages of this pipeline and how we can quantify biases and take steps to mitigate them.

Bio: Dr. Shaina Raza currently serves as an Applied Machine Learning Scientist with a focus on Responsible AI at the Vector Institute of Artificial Intelligence, located in Toronto, Canada. She holds a Ph.D. in Computer Science, where her research centered around Recommender Systems and Fairness in Machine Learning. Her research portfolio is diverse, covering areas such as Recommender Systems, ML Fairness, Public Health Equity, and Ethical AI. Before assuming her current position, Dr. Raza enriched her experience as a Postdoctoral Fellow at Public Health Ontario and the Dalla Lana School of Public Health. She held the esteemed position of CIHR HSIF award holder during this time. Over the years, Dr. Raza has made several notable contributions to her academic field. She continues her commitment to understanding and innovating at the crossroads of technology and societal welfare.

Thursday, June 22nd, 2023

9:00AM – 10:15 AM

IDEA Concepts and Application in Data Science
Speaker: Dr. Amy Freier

Description: During this session we will cover two learning objectives: i) identify and differentiate the differences between inclusion, diversity, equity, and accessibility (IDEA); and ii) application of IDEA in the data research cycle.

Bio: Dr. Amy Freier (she/her) is a woman, a person with a disability, and an interdisciplinary researcher. She is a Research Associate at the Manitoba Centre for Health Policy and the Inclusion Diversity Equity and Accessibility Lead for Health Data Research Network Canada, Dr. Freier's research interests include health equity, data equity, data curation, and human rights.

10:30AM – 12:00PM

Faculty Lightning Talks
Speakers: Dr. Britt Drögemöller, Dr. Xuekui Zhang, Dr. Natalie Knox

Dr. Drögemöller is an assistant professor at the Max Rady College of Medicine, Biochemistry and Medical Genetics, University of Manitoba. She joined the university in 2020 and holds a Canada Research Chair in Pharmacogenomics and Precision Medicine. She received her PhD from Stellenbosch University in South Africa in 2013 and completed a postdoctoral fellowship at the University of British Columbia. The Drögemöller Lab at the University of Manitoba is at the forefront of precision medicine, using cutting-edge genomics and bioinformatics techniques to unlock the secrets of human disease. The lab is focused on understanding the

genetic factors that contribute to disease, with a specific emphasis on vulnerable and understudied populations such as pediatric and maternal patients. Through large-scale genomic and computational analyses, the lab is working to improve our understanding of how genetic variation contributes to human disease and pave the way for individualized treatments for rare and common diseases. By leveraging the power of pharmacogenomics, the Drögemöller Lab is working to create more effective and safer treatments, while also improving the lives of patients who have been traditionally overlooked by the medical community.

Dr. Xuekui Zhang (PhD) is an Assistant Professor at University of Victoria, a Canada Research Chair (Tier II) in Bioinformatics and Biostatistics (2017-2027), and a Michael Smith Health Research BC Scholar (2022-2027). Dr. Zhang is also an associate member of Centre for Heart Lung Innovation at University of British Columbia (2019-2024) and an adjunct faculty in Max Rady College of Medicine at Univ of Manitoba (2021-2024). He is also a faculty member of the Centre for Advanced Materials and Related Technology. Dr. Zhang's research focuses on developing and applying novel biostatistics methods and software tools to solve real-world problems in medical and biological research. His research interests include (1) Bioinformatics, (2) Biostatistics, (3) Machine learning, (4) Design of clinical trials, and (5) COPD.

Dr. Knox is an adjunct professor in the department of medical microbiology and infectious diseases at the University of Manitoba. She is also head of the computational biology unit within the bioinformatics section at the Public Health Agency of Canada's National Microbiology Laboratory. Dr. Knox is actively involved in the deployment of new genomics technologies and methods for public health epidemiology within Canadian Public Health laboratories. Dr. Natalie Knox's research expertise is centered on the application of microbial genomics and bioinformatics for infectious disease surveillance and detection. Her current research focus is on the use of genomics for COVID-19 surveillance and outbreak detection. She also studies the gut microbiome's influence on health and disease particularly in immune-mediated inflammatory diseases.

1:00PM – 2:15 PM

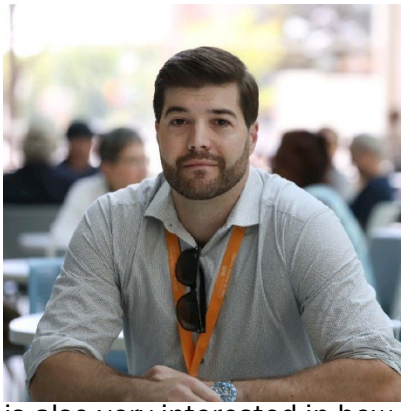
Strategies for Effective Medical Image Classification using Convolutional Neural Networks: Addressing the Challenges of Inconsistent Image Quality, Insufficient Data Quantity, and Class Imbalance
Speaker: Barret Monchka

Description: Convolutional neural networks can identify disease features in medical images with accuracy comparable to human experts; however, deep learning models rely on large amounts of high-quality training data to effectively learn relevant image features, and model performance is degraded when training on images of poor quality or with inconsistent characteristics. Medical image data acquired for clinical purposes or through longitudinal health studies often exhibit considerable diversity in terms of patient orientation, acquisition equipment, image dimensions, image processing techniques, and annotation methods; and these factors can hinder the optimization of medical image classifiers. Furthermore, producing fair and unbiased models with high generalizability is challenging when training models on datasets of insufficient size, with severe class imbalance, or that are non-representative samples of the target population. This presentation will provide an overview of medical image analysis and the convolutional neural network architecture and discuss strategies to address these challenges including techniques to handle class imbalance and reduce overfitting, the application of active learning to cost-effectively increase the amount of training data, and the utilization of image preprocessing and model training techniques to improve model accuracy, fairness, and generalizability.

Bio: Barret Monchka, a VADA Program alumnus, is a data analyst at the George & Fay Yee Centre for Healthcare Innovation at the University of Manitoba. Barret's research activities include automating and optimizing probabilistic record linkage, employing deep learning techniques for medical image interpretation, and efficiently annotating large sets of images collected by longitudinal health studies. Barret's interests in artificial intelligence are centered around model validation, approaches for training fair and unbiased models and improving external generalizability. Barret has a Bachelor of Computer Science and an MSc in Community Health Sciences, both from the University of Manitoba.

3:15PM – 4:30PM

Social Media Presence for Researchers Panel
Panelists: Dylan Mckay & Robyn Ritchie



Dr. Dylan MacKay is a person who lives with type 1 diabetes and an Assistant Professor in the Department of Food and Human Nutritional Sciences in the Faculty of Agriculture and Food Sciences and the Department of Internal Medicine Section - Endocrinology in the Rady Faculty of Health Sciences at the University of Manitoba. Dylan is a nutritional biochemist, specializing in human clinical trials, diabetes and chronic kidney disease. He is interested in the appropriate design and implementation of human clinical trials, especially in the field of human nutrition. His research is broadly focused on how lifestyle can impact chronic disease risk and how lifestyle interventions can be delivered via the healthcare system. Dylan is also very interested in how to appropriately translate scientific findings to combat misinformation, especially on the internet and social media.

Robyn Ritchie completed her undergraduate and master's degree in statistics at the University of Manitoba under the supervision of Dr. Alexandre Leblanc. She has a love for sports and is continuing her education at Simon Fraser University pursuing a PhD in statistics where she hopes to revolutionize the game of curling with sports analytics under the supervision of Dr. Thomas Loughin and Dr. Alexandre Leblanc. Robyn has worked with soccer analytics throughout her masters where she looked to estimate the scoring rates of various teams in the English Premier League, as well as comparing home and away performances and scoring patterns throughout additional time.

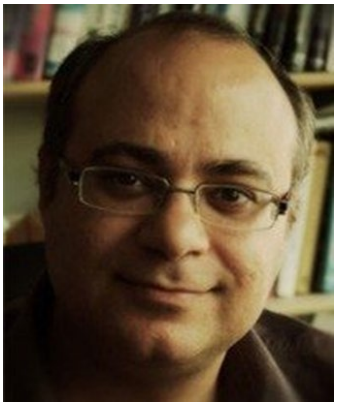
Friday, June 23rd, 2023

8:30AM – 10:00AM

Faculty Lightning Talks
Speakers: Dr. Depeng Jiang, Dr. Pingzhao Hu & Dr. Pourang Irani

Dr. Depeng Jiang is an associate professor in Biostatistics in the Department of Community Health Sciences, Max Rady College of Medicine, Rady Faculty of Health Sciences at the University of Manitoba. He also leads the Biostatistics Group in the data science platform of George and Fay Yee Center of Healthcare Innovation (CHI). Dr. Jiang has worked as a PhD statistician at St Michael's Hospital (2007-2010), LaMarsh Centre for Child & Youth Research at York University (2004-2017). He has well-established relationship through years of collaboration with multidisciplinary researchers and policy-makers. He has consolidated and made available his program of research to local, national and international venues, while providing training on advanced statistical methods for students, researchers and faculty members from different subject area. Application of these statistical methods has not only provided the necessary evidence to support decision making, but also significantly increased researchers and trainees' chances of success in journal publications and grant competition, as well as transformed their abilities to do research.

Dr. Pingzhao Hu is a tenured Associate Professor in Western University. Dr. Hu was trained in computer science and applied statistics. His group has published over 160 peer-reviewed articles with over 6700 citations and H-index 38. Dr. Huis an Associate Editor of Annals of Medicine (Section of Medical Genetics and Genomics), and Computational and Structural Biotechnology Journal (CSBJ).



Dr. Pourang Irani is a Professor in the Department of Computer Science at the University of British Columbia (Okanagan campus) and Principal's Research Chair in Ubiquitous Analytics. He earned his Ph.D. in Computer Science from the University of New Brunswick in 2002 under the supervision of Dr. Colin Ware. Dr. Irani started his career at the University of Manitoba (UofM) and served there for 19 years as a faculty member in Computer Science and as Acting Associate Dean for the Faculty of Science before moving to UBCO in January 2022. His research lies broadly in the areas of Human-Computer Interaction and Information Visualization. More specifically, his team is concentrating on designing and studying novel interactive systems for sensemaking "anywhere" and "anytime". For advancing this work they rely on mixed reality (MR) and wearable technologies for developing novel prototypes of visual interfaces and devices.

10:15AM – 12:00PM

Career Development Panel
Panelists: Matt Schaubroeck, Dr. Jaskaran Dhiman, Dr. Cuneyt Akcoro

Matt Schaubroeck is Chief Operating Officer for PremiseHQ, a data management company working in the commercial real estate industry. Matt has spent the last 6 years creating solutions to identify gaps in the energy efficiency, air quality and occupant comfort in buildings, both through PremiseHQ and his own startup, ioAirFlow. Matt holds an MBA in entrepreneurship from the Asper School of Business at the University of Manitoba. He is also a volunteer mentor with Catalyste+, an organization which helps global entrepreneurs and innovators create more sustainable and successful businesses.

Dr. Jaskaran Dhiman works as a Sr. Data Scientist with Manitoba Health. An agricultural engineer by training, prior to his current appointment, Jaskaran worked as a postdoctoral researcher and a lecturer at the School of Engineering, University of Guelph, Ontario as well as at the Department of Bioresource Engineering, McGill University, Quebec. He holds a M.S. degree in Biosystems Engineering from the Department of Biosystems Engineering, Auburn University, USA, as well as a PhD from Bioresource Engineering, McGill University, Quebec.

Dr. Cuneyt Gurcan Akcora is an assistant professor of Computer Science at the University of Manitoba in Canada. He received his Ph.D. from the University of Insubria, Italy. His research interests include data science on complex networks and large-scale graph analysis, with applications in social, biological, IoT, and blockchain networks. Akcora has been awarded a Fulbright Scholarship and has published his research in leading conferences and journals, including IEEEtran, KDD, NeurIPS, VLDB, ICDM, SDM, IJCAI, and ICDE.

Monday, June 19 Program				
Time	**Activity/Topic**	**Location**	**Speaker**	**Session Facilitator**
7:45 AM - 8:30 AM	Breakfast	108 St John's College		
8:30 AM - 9:00 AM	Introductions and Ice Breaker	201 St John's College (Virtual)	Dr. Pourang Irani, Dr. Lisa Lix, Dr. Elizabeth Borycki, and Dr. Andre Kushniruk	Dr. Lisa Lix
9:00 AM - 9:45 AM	Introduction to Data Set and Big Data Challenge	118 St John's College	Dr. Alistair Johnson and Dr. Pingzhao Hu	Henry Oluka
9:45 AM - 12:15 PM *Including a break*	Introduction to Deep Learning with Applications in Medical Research	118 St John's College	Jasper Zhang	Saqib Islam
12:15 PM - 1:15 PM	Lunch	108 St John's College		
1:15 PM - 2:30 PM	Rethinking Genomic Data Analysis: Modern Statistical and Machine Learning Methods for Overcoming Challenge	201 St John's College (Virtual)	Dr. Qihuang Zhang	Maria Shenna Fauni
2:30 PM - 2:45 PM	Break			
2:45 PM - 5:00 PM	Data Challenge Work Time	St John's College: Team A: Room 112 Team B: Room 113 Team C: Room 114 Team D: Room 116 Team E: Room 117		

Tuesday, June 20 Program				
Time	**Activity/Topic**	**Location**	**Speaker**	**Session Facilitator**
7:45 AM - 8:15 AM	Breakfast	Daily Bread Café Patio (indoor restaurant as back up)		
8:15 AM - 8:30 AM	Overview of day and announcements	118 St John's College	Dr. Lisa Lix	N/A
8:30 AM - 10:30 AM	Data Challenge Work Time	St John's College: Team A: Room 112 Team B: Room 113 Team C: Room 114 Team D: Room 116 Team E: Room 117		
10:30 AM - 10:45 AM	Break			
10:45 AM - 12:00 PM	A Primer on Large Language Models and Healthcare	118 St John's College	Dr. Alistair Johnson	Kailun Bai
12:00 PM - 1:00 PM	Lunch	Daily Bread Café Patio (indoor restaurant as back up)		
1:00 PM - 3:00 PM	Data Challenge Work Time	St John's College: Team A: Room 112 Team B: Room 113 Team C: Room 114 Team D: Room 116 Team E: Room 117		
3:00 PM - 3:15 PM	Break			
3:15 PM - 5:00 PM	Data Challenge Presentations	118 St John's College	Data Challenge Judges: Dr. Xuekui Zhang, Dr. Miguel Uyaguari, and Dr. Alistair Johnson	Dr. Lisa Lix

Wednesday, June 21 Program				
Time	**Activity/Topic**	**Location**	**Speaker**	**Session Facilitator**
7:45 AM - 8:15 AM	Breakfast	108 St John's College		
8:15 AM - 8:30 AM	Overview of day and announcements	118 St John's College	Dr. Lisa Lix	N/A
8:30 AM - 12:00 PM *Include break*	Python Workshop	118 St John's College	Eric Marinier	Hassan Maleki Golandouz
12:00 PM - 1:00 PM	Lunch with Roundtable Discussions	Lunch served in 108 St John's College	Room 112: Jing Han - Data Science in Government. Room 113: Richard LeDuc - Reproducibility in Bioinformatics. Room 114: Alistair Johnson - Unique Challenges in Working With Clinical Data.	
1:00 PM - 2:15 PM	Equity in Machine Learning	201 St John's College (Virtual)	Dr. Shaina Raza	Dee Dee Wong
2:15 PM - 3:00 PM	Break & Poster Set Up			
3:30 PM - 5:30 PM	Poster Presentations/Reception	Multipurpose Rooms 1 & 2, 100 Innovation Drive (Smartpark Research & Technology Park)	N/A	Dr. Lisa Lix and Dr. Pourang Irani

Thursday, June 22 Program				
Time	**Activity/Topic**	**Location**	**Speaker**	**Session Facilitator**
7:45 AM - 8:15 AM	Breakfast	Daily Bread Café Patio (indoor restaurant as back up)		
8:15 AM - 8:30 AM	Overview of day and introductions	118 St John's College	Dr. Lisa Lix	N/A
8:30 AM – 9:00 AM	Networking/Group Activity	118 St John's College	Dr. Lisa Lix	N/A
9:00 AM - 10:15 AM	IDEA Concepts and Application in Data Science	118 St John's College	Dr. Amy Freier	Thuppahiralalage Eranga De Saa
10:15 AM - 10:30 AM	Break			
10:30 AM - 12:00 PM	Faculty Lightning Talks	118 St John's College	Dr. Natalie Knox, Dr. Xuekui Zhang, and Dr. Britt Drögemöller	Katherine Li
12:00 PM - 1:00 PM	Lunch with Roundtable Discussions	Daily Bread Café Patio (indoor restaurant as back up)	Room 112: Gary Van Domselaar - Working in National Microbiology Laboratory. Room 113: Lisa Lix - Tips for Writing and Publishing Manuscripts. Room 114: Iman Beheshti - ML Methods for Pattern Detection in Chronic Disease Populations.	
1:00 PM - 2:15 PM	Strategies for Effective Medical Image Classification using Convolutional Neural Networks: Addressing the Challenges of Inconsistent Image Quality, Insufficient Data Quantity, and Class Imbalance	118 St John's College	Barret Monchka	Mohd Wasif Khan

2:15 PM - 2:30 PM	Break			
2:30 PM - 3:15 PM	Preparing for an Interview	118 St John's College	Dr. Lisa Lix	Jocelyn Ivette Zambrano Alvarado
3:15 PM - 4:30 PM	Social Media Presence for Researchers Panel	118 St John's College	Dr. Dylan McKay and Robyn Ritchie	Samah Ahmed
Note: Event Day parking restrictions begin at 6:00 PM for Winnipeg Blue Bomber game				

Friday, June 23 Program				
Time	**Activity/Topic**	**Location**	**Speaker**	**Session Facilitator**
7:45 AM - 8:15 AM	Breakfast	108 St John's College		
8:15 AM - 8:30 AM	Overview of day and announcements	118 St John's College	Dr. Lisa Lix	N/A
8:30 AM - 10:00 AM	Faculty Lightning Talks	201 St John's College	Virtual: Dr. Depeng Jiang In-Person: Dr. Pingzhao Hu and Dr. Pourang Irani	Shi Zhang
10:00 AM - 10:15 AM	Break			
10:15 AM - 12:00 PM	Career Development Panel	201 St John's College	Virtual: Dr. Cuneyt Akcora In-person: Matt Schaubroeck, Dr. Jaskaran Dhiman	Muditha Bodawatte Gedara
12:00 PM - 1:00 PM	Lunch	108 St John's College		
1:00 PM - 2:30 PM	Evaluations, Debrief, and Awards	118 St John's College	Dr. Lisa Lix and Dr. Pourang Irani	N/A

The VADA Program
Visual and Automated Disease Analytics Graduate Training Program

Summer School 2023 Social Calendar

Date & Time	Activity	Location
Sunday, June 18 7:00 – 9:00 PM	BBQ open to faculty and students	Daily Bread Café Patio (indoor restaurant as back up)
Monday, June 19 Evening	Dinner for out-of-town faculty and guests	TBD
Tuesday, June 20	Gathering for faculty and students (*optional*)	TBD
Wednesday, June 21 3:30 – 5:30 PM	Research Poster Reception	Multipurpose Rooms 1 & 2, 100 Innovation Drive (Smartpark Research & Technology Park)
Thursday, June 22 Leaving campus at ~ 5:15 PM	Student Gathering & Faculty Dinner	Students: The Leaf, followed by dinner Faculty: TBD