Digital Health Technologies

Class of 2021
Student Profile Booklet
Co-op Program 2020-2021
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DIRECTOR’S MESSAGE

Commencing this academic year, our new Digital Health Technologies (DHT) stream prepares a new generation of professionals working in healthcare with a curriculum that has three main pillars: data science, healthcare regulation and business training. Students learn an eclectic array of skills to tackle problems in the healthcare industry such as: machine learning, coding, data visualization, data cleaning, web design, medical device reimbursement, social media analytics and healthcare product regulation. Candidates for the DHT stream have some knowledge of the life sciences coupled with evidence of a strong aptitude for analyzing data.

DHT falls under the umbrella of the Master of Biotechnology program (MBiotech). The MBiotech program now has 2 streams: Digital Health Technology and Biopharma. Over the past 15 years, MBiotech has built an enviably deep roster of sustained relationships with its many major sponsors in the industry, and continues to offer excellent opportunities to all of its students. Likewise, our sponsors are vocal about the benefits such placements bring to their operations. Many of the big players in the biopharmaceutical industry, in particular, are enthusiastic supporters of MBiotech, recognizing the unique blend of science and business skills that our co-op students can offer, and continue to post highly sought-after opportunities year in and year out.

DHT follows the same internship program as set by the highly successful biopharma stream. Our goal is to give our students a firm foothold on the career ladder in healthcare, and this pledge is backed by an unbeaten track record of success for placements both in big, established Pharma, as well as in smaller biotech and health tech companies. Very many graduates leap straight into a full-time career with our sponsors, and nearly all find employment quickly after graduation day. Conversely, MBiotech students on their co-op placements serve as ambassadors for the Program and reinforce our brand excellence, so it is critical to our future successes that our students represent your company, the University and the Program with commitment and professionalism.

Nazeem Shamsuddin, our External Relations Manager, has a wealth of experience to help guide our students and employers through the application, interview preparation and decision-making process and will be on hand to offer advice at every stage. As with every DHT class, there will be hot competition, and some tough choices to make for all of our students and industry partners. We have actively encouraged all of our students to embrace these opportunities and to learn from them as they take the next steps towards their new careers; and we would like to take this opportunity to thank all of our corporate partners for their renewed support this year: You are fundamental to our success!

Dr. Leigh Revers, M.A. (Oxon), D.Phil.
Director, Master of Biotechnology
Associate Professor (Teaching Stream)

Jayson Parker, M.Sc., M.B.A., Ph.D.
Associate Director (Digital Health Technology)
Associate Professor (Teaching Stream)

Digital Health Meets Data Science.
**MBiotech: Where Science Meets Business**

The MBiotech Program is a 24 month, course-based professional degree program offered through the Institute for Management & Innovation at the University of Toronto Mississauga. Offering streams in both Biopharmaceuticals and Digital Health Technologies, the program incorporates both science and business courses with 8 to 12 months of work experience in industry. The carefully selected combination of courses, coupled with relevant industry experience and a strong focus on teamwork, provides our graduates with a truly interdisciplinary educational experience at a world-renowned university.

The program was launched in 2001, with the goal of developing biotechnology professionals with scientific and management skills for the biotechnology industry. The MBiotech Program is specifically tailored to meet the evolving needs of our students and those of the global biotechnology and health sciences sectors.

**DHT: Digital Health Meets Data Science**

Digital Health Technologies (DHT) Program’s focus of training is data science and will include advanced training in machine learning tools. It is a 2-year professional masters program that will involve 8-12 months of placement in industry through paid student internships. Students will learn about basic business, health, regulation and data science.

The digital health field is diverse and includes: bio-physics, mobile medical apps, health information technology, electronic medical records, software and cybersecurity, health information technology and wearable technology. DHT is an area that invites a spectrum of expertise that goes beyond engineering and design.

**We are committed to:**

- Working closely with industry and developing a graduate program that meets the needs of current employers
- Providing a broad background of in-depth classroom and laboratory based courses relevant to the biotech and health tech industries
- Introducing students to a wide range of biotechnology and digital health tech niches in the workplace
- Developing strong business and interpersonal skills in our graduate students
- Interfacing with a wide range of biotechnology, pharmaceutical, and digital health tech through internships
DHT curriculum is comprised of 9.5 graduate course credits over a 24-month period on a full-time basis. These 9.5 credits are comprised of the following:

- 8 Science courses
- 3 Business courses
- 2 Programming courses
- 3 Work Term courses

Science Courses:
- Medical Device Reimbursement
- Data Science in Health I
- Data Science in Health II
- Digital Ethnography in Health
- Introduction to IT consulting and Web Design
- Data Science and Digital Health Technology
- Biopartnering Seminar I
- Biopartnering Seminar II

Business Courses:
- Effective Management Practices
- Fundamentals of Managerial Concepts
- Management of Technological Innovation

Programming Courses:
- Intro to Computer Programming
- Information & Data Visualization in Science and Medicine

Work Term
- Work Terms I, II and III
- Internship Placements

The DHT field involves three main pillars:
1. Health & Regulatory
2. Data Science
3. Business

Students will learn about chronic diseases and health & wellness related issues including emerging technology. Data science combines advanced statistical training with domain knowledge about healthcare and specific diseases, and students will be introduced to basic business concepts to understand profit drivers in this sector.
DHT CURRICULUM MAP

Digital Health Tech Curriculum Map

- Healthcare
  - Data Science & Digital Health (BTC1899H)
  - Medical Device Reimbursement (BTC1842H)
  - Digital Ethnography in Health (BTC1882H)
  - Biopartnering I (BTC1600H)
  - Biopartnering II (BTC1610H)

- Data Science
  - Data Science I (BTC1859H)
  - Data Science II (BTC1877H)
  - Programming (MSC2011H)
  - Intro IT Consulting & Web Design (BTC1895H)

- Digital Tools
  - Information & Data Visualization in Science & Medicine (MSc2019h)

- Business
  - Effective Management Practices (BTC2000H)
  - Fundamentals of Managerial Concepts (BTC2010)
  - Management of Technological Innovation (BTC2030H)

- Experiential Learning
  - Internship BTC1900Y
  - Internship BTC1910Y
Training today’s innovative scientists to become tomorrow’s business leaders.

Our students have a professional mindset, as well as a broad spectrum of learning acquired through this innovative program that focuses on topics of special relevance in today’s digital health space. Digital Health Technologies (DHT) stream prepares a new generation of professionals working in healthcare with a curriculum that has three main pillars: data science, healthcare regulation and business training.

Our Students’ qualifications:

- Diverse graduate and undergraduate backgrounds in a wide-range of disciplines including (but not limited to): biology, chemistry, physics, public health, statistics, computer science, engineering, epidemiology
- Highly qualified, bright, committed individuals eager to learn and make the most of their internship opportunity
- Students learn an eclectic array of skills to tackle problems in the healthcare industry such as: machine learning, coding, data visualization, data cleaning, web design, medical device reimbursement, social media analytics and healthcare product regulation
- Future team leaders with a firm understanding of organizational skills and the importance of working together to benefit your team

Internships are arranged on a full-time, 4-month renewal basis and can be extended for up to 12 months. Placement timing is flexible and coordinated through the calendar year, commencing every May.

This Student Profile Directory is a guide created for employers and industry partners in order to introduce you to our students. The students presented in this guide are seeking 4, 8, or 12-month work terms beginning in May 2020, September 2020, or January of 2021. Our students have multi-disciplinary science backgrounds combined with business aptitude, excellent communication skills and teamwork abilities. The versatile nature of DHT students will make them valuable contributors to your organization.

Why Hire a DHT Student?

Excellent Recruitment Tool
- Students are rigorously pre-screened by the Program Office

Co-ops Are Competitive
- Our salary guidelines are in the range of $24–$28 per hour, and as they are students no benefits packages are needed

Fringe Benefits For You
- Employers can benefit from substantial tax incentives! See the section on salary guidelines for more information
CO-OP RECRUITMENT & SCHEDULING

As part of our unique program, students take up to three consecutive work-terms with top employers across Ontario and beyond. All internships are arranged through our Internal Relations Manager, where each placement is full time and a minimum of 4 months in duration. As such, co-ops can be extended/renewed up to a maximum of 12 months. Placement time is flexible and is coordinated throughout the calendar year.

CRITERIA FOR CO-OP PLACEMENTS

Each 4-month co-op placement is classified as a required course for the DHT program. As such, students receive academic credit for each placement they successfully complete. Specific criteria must then be satisfied to ensure students receive appropriate credit. Please see below for a full listing of required criteria.

Co-op placements must:

- Be full-time for a minimum of four months (greater than 35 hours per week)
- Have a designated, qualified person responsible for evaluating the student’s progress (please see adjacent section on `evaluation component’)
- Provide the student with in-depth exposure to the employer’s organization
- Be developed and/or approved as a suitable setting for higher learning
- Be monitored by the Placement and Employer Relations Manager
- Completion of Employer-Student Evaluation. For each 4-month work term the direct supervisor is required to submit a Student Evaluation in the form of a survey
The work terms for DHT students are generally paid positions, with an average salary range of $24-$28 per hour. As DHT co-ops are students, salary packages generally do not need to include extended benefit plans. Employers may be eligible for the following tax incentive program, in regards to hiring DHT students:

Cooperative Education Tax Credit

The Co-operative Education Tax Credit (CETC) is a refundable tax credit. The CETC is available to employers who hire students enrolled in a co-operative education program at an Ontario university or college. The Canada Revenue Agency (CRA) administers the program on behalf of Ontario through the federal income tax system.

The CETC is based on salaries and wages paid to a student in a co-operative education work placement. The maximum credit for each work placement is $3,000. Most work placements are for a minimum employment period of 10 weeks up to a maximum of four months.

For full details, please visit the Ontario Ministry of Finance Website at: www.fin.gov.on.ca/en/credit/cetc.
For more information on hiring an MBiotech student:

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External Relations Manager
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STUDENT PROFILES
SUMMARY OF SKILLS AND ACHIEVEMENTS

• Highly motivated, hardworking, and able to adapt to environments to excel and deliver high quality results
• Proven flexibility, organization, and time management skills by consistently achieving high academic standing alongside employment and volunteer activities
• Excellent communication and interpersonal skills developed through numerous roles and experiences including over 5 years in customer service
• Strong analytical and critical-thinking skills, with technical experience in several programming languages including Java, Javascript, R, and Python
• Possesses various web design, analytics, and visualization software experience including Blender (graphics and modelling), Tableau (data visualization), and Crimson Hexagon (social media analytics)

EDUCATION

• Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
• Bachelor of Technology – Biotechnology, McMaster University, Class of 2019
• Dean’s Honour List, McMaster University (2014 – 2019), and graduated with distinction
• Recipient of the McMaster University Senate Scholarship for outstanding GPA (2017)

EXPERIENCE AND QUALIFICATIONS

• Financial Officer Co-op, Ontario Ministry of Health and Long-Term Care (Health Sector Models Branch) – Supported execution & analyses of funding models and other health data; aided with issues management through coordination and preparation of briefing materials and inquiry responses for stakeholders
• Teaching Assistant, McMaster University – Facilitated tutorial sessions and ensured students’ proper understanding of material for Computational Modelling of Biological Systems (Java Programming and Numerical Analysis) course
• Undergraduate Capstone Project, McMaster University – Developed a prototype electrochemical biosensor system for c-Myc protein detection to be used as a point-of-care cancer diagnostic device
• Customer Service Representative, Truscott IDA Pharmacy – Responsible for handling customer needs and inquiries, inventory management and organization, and ensuring delivery of exceptional customer service
• Food Service Clerk, Loblaws – Followed strict health and safety protocols for food preparation while maintaining high standards of customer service during fast-paced operations
• Administrative Volunteer, Region of Peel Public Health Clinic – Responsible for document updates and filing, computer data entry, maintaining and replenishing health supplies and kits, and overall general support

PERSONAL INTERESTS

• Technology, reading, travelling, hiking, music
SUMMARY OF SKILLS AND ACHIEVEMENTS

• Exceptionally motivated and dedicated individual that works well under pressure
• Highly skilled at multi-tasking and managing priorities in fast-paced environments
• Effective interpersonal, intrapersonal, and leadership skills honed through student leadership, community service, and research experiences
• Strong ability to adapt to new roles, responsibilities, and challenges outside of comfort zone
• Dynamic ability to communicate to varied audiences; mastered through presentations, case study competitions, and thesis writing
• Advanced problem solving skills, critical thinking skills, and an analytical mindset cultivated through data science and biostatistics experience
• Trained in R, Javascript, Blender 2.8 (3D Modelling software), Tableau (data visualization), Crimson Hexagon (social media analytics software), and Web Design

EDUCATION

• Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
• Merck Graduate Scholarship in Biosciences and Biotechnology, University of Toronto, 2019
• Honours Bachelor of Science with Distinction – Co-operative Education, Major in Biomedical Sciences, Ryerson University, Class of 2019

EXPERIENCE AND QUALIFICATIONS

• Honours Thesis – Characterized the efficacy of ethyl lauroyl arginate as a potential nosocomial antifungal agent against Schizosacharomyces pombe (model organism)
• Research Assistant, Dr. Fehlings’ Lab – Worked to reprogram human induced pluripotent stem cells to regenerate injured spinal cord tissue (rat model) with a focus on confocal microscopy and molecular biology
• VP Operations, Biomedical Science Course Union – Organized the annual Town Hall to address student concerns directly to the program director in a mediated conversation
• Workshops Planning Lead and Facilitator, Beyond the B.Sc. Conference – Lead a team of 6 individuals to plan 4 simultaneously operating workshops for 100+ student attendees. Collaborated with industry professionals, other academic disciplines, Toastmasters, and the Career Centre to offer an interdisciplinary and interpersonal experience
• Ontario Biology Day 2016, Case Competition Challenge in Synthetic Biology – Designed, wrote, and presented a team proposal to offer a solution using synthetic biology. Placed 2nd in the competition.

PERSONAL INTERESTS

• Singing, Reading, Travelling, Puzzles and Strategy Games, History
SUMMARY OF SKILLS AND ACHIEVEMENTS

• Exemplified ingenuity and cost management skills by building functional equipment as cost-efficient measures for long term R&D, in keeping with the fast-paced demands of an entrepreneur environment.
• Exceptional leadership and interpersonal capabilities as demonstrated through executive positions in collegiate organizations and extensive involvement in community volunteering.
• Highly adaptable, with strong analytical and critical thinking abilities as refined through various independent, collaborative and interdisciplinary projects in industry and academia.
• Proficient in social media analytics (Crimson Hexagon), data visualization (Tableau) and modelling software (Blender), and coding (R, Java, JavaScript) and web design programming languages (HTML and CSS).
• Working knowledge of data governance, medical device procurement and reimbursement frameworks for Canadian-based healthcare providers and health solutions companies.

EDUCATION

• Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
• Bachelor of Science, Major in Microbiology and Immunology, Minor in Biotechnology, McGill University. Class of 2017.

EXPERIENCE AND QUALIFICATIONS

• Key Microbiology Researcher, Impactful Health R&D – established and implemented company-specific SOPs for patentable product innovation in sustainable food packaging. Reported directly to CEO and co-founders as an early employee.
• Recipient of the Summer Undergraduate Research in Engineering Award – collaborated with a diverse team from Health Canada and the Faculty of Engineering to build strategies quantifying eco- and microbial toxicity in response to engineered nano-topography or toxic synthetic environments.
• Co-Coordinator of the Collegiate Challenge, McGill Students for Habitat for Humanity Montreal – determined program logistics with international affiliate, established budget, and maintained expenditure records for student-funded community development trip.
• Co-President, McGill Students for Habitat for Humanity Montreal – refined roles of the executive team, and acted as liaison to external sponsors and the governing body of student societies at McGill to expand outreach of the organization beyond the campus.

PERSONAL INTERESTS

• Kickboxing, playing guitar, dance, learning languages
SUMMARY OF SKILLS AND ACHIEVEMENTS

• Highly analytical, innovative, and driven to develop skills within the emerging digital health field.
• Published two academic papers as first and co-first author in Methods in Enzymology and the Journal of the American Chemical Society, respectively.
• Excellent communication and public speaking skills as demonstrated through two presentations at international and domestic conferences, as well as through 2+ years as a teaching assistant in the department of Chemical and Physical Sciences at U of T.
• Proficient with data visualization and statistical analysis platforms such as: R Studio, JavaScript ES6, Tableau (data visualization software), Crimson Hexagon (social media analytics platform), Blender (modelling program), and web design.
• Excellent time management and organization skills advanced through the practice of a demanding academic schedule coupled with employment, volunteer, and a rigorous training protocol for sport.

EDUCATION

• Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
• Master of Science, Chemistry, University of Toronto, Class of 2019.
• Honours Bachelor of Science, Double Major in Biology and Chemistry, University of Toronto, Class of 2017.

EXPERIENCE AND QUALIFICATIONS

• Master’s thesis completion in Chemistry – Illustrated mechanistic underpinnings of substrate inhibition of the homodimeric enzyme, Fluoroacetate Dehalogenase, through 19F-NMR. Contributed towards elucidating functional states of the full length, Adenosine 2A receptor in complex with signaling proteins.
• Undergraduate research thesis completion in Chemistry – Optimized expression protocol for the D2 Dopamine Receptor in yeast, P. Pastoris, through use of immunoblotting assays to quantify levels of expression in membrane.
• Mastery of biochemical laboratory techniques, including: cloning, protein expression in bacteria and yeast, protein purification, and biochemical visualization/quantification assays. Experience with operating 600MHZ Varian NMR spectrometer, FPLC, HPLC, ultracentrifuge, and various spectrophotometers.
• Explored clinical trial data sets and performed statistical analysis through R studio to generate a comprehensive report on the prevalence of sleep disturbance among patients with liver transplants due to cirrhosis.

PERSONAL INTERESTS

• Olympic Weightlifting, Home Brewing Beer/Wine, Hiking, World of Warcraft.
SUMMARY OF SKILLS AND ACHIEVEMENTS

• Knowledge of Tableau (data visualization software), Crimson Hexagon (social media analytics software), Blender (3D modeling program), and web design. Statistical and coding experience in JavaScript, Unix, and R.
• Excellent scientific and written communication skills gained from conducting professional and academic research, as well as through contributions to scientific publications, conference presentations, and public outreach events.
• Strong analytical skills developed by organizing, cleaning and analyzing data through professional experiences as a Clinical Researcher, Research Assistant and Data Analyst.
• Creative and collaborative thinker and team member; dedicated to consistently finding alternative avenues to resolving complex issues and questions with project teams and individually.

EDUCATION

• Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
• Master of Science, Neuroscience, McMaster University, Class of 2019
• Teaching and Learning Foundations Certificate, McPherson Institute, McMaster University, 2019
• Foundations of Project Management I, Mitacs, 2018
• Honours Bachelor of Science, Biology and Forensic Science, Class of 2016

EXPERIENCE AND QUALIFICATIONS

• Master’s Research Thesis– examined the influence of gene-environmental interactions on microbial diversity and composition during early postnatal development. Utilized bioinformatic and statistical tools to analyze the microbiome of 1000 mice.
• Data Entry Clerk in the department of Continuing Health Sciences; Education Services at McMaster University– quantitatively and qualitatively analyzed data and generated reports to inform the effectiveness of continuing health science education programs.
• Clinical Researcher in Suicide Studies at St. Michael’s Hospital (CAN-BIND)– analyzed clinical and molecular data that examined predictors of treatment response in Major Depressive Disorder (MDD). Molecular data were analyzed through bioinformatic tools to identify factors that predict patient response to antidepressants. This included looking at zebrafish as an animal model to study reverse translational approaches.

PERSONAL INTERESTS

• Brunch, specifically pancakes; anywhere with palm trees; interior design; European travel connoisseur
SUMMARY OF SKILLS AND ACHIEVEMENTS

• Detail-oriented with strong critical thinking skills acquired through completion of extensive coursework and undergraduate research projects
• Exceptional leadership and interpersonal skills developed through mentorship and volunteering
• Effective time management and organizational skills refined through the consistent balancing of academics with extracurricular activities and part-time employment
• Excellent communication and public speaking skills achieved through delivering multiple undergraduate presentations and leading project meetings
• Strong analytical, coding, statistical, and graphic design skills developed through working with JavaScript (coding), Tableau (data visualization), Crimson Hexagon (social media analytics), Blender (3D graphics), and R programming (statistics) applications.

EDUCATION

• Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
• Honours Bachelor of Science with distinction, Human Biology: Health and Disease Specialist, University of Toronto, Class of 2019

EXPERIENCE AND QUALIFICATIONS

• Research Assistant, Model Schools Pediatric Health Initiative, St. Michael’s Hospital - Analyzed patient data from the first Canadian RCT conducted to examine school-based health centers, focusing on the relationship between autism and diagnostic wait time to alleviate the barriers and disparities in access to health care amongst Toronto’s most vulnerable inner-city children.
• Research Assistant, Ecological Epidemiology, Krkosek Lab - Managed several research projects and collaborated with PhD students to investigate disease susceptibility and host parasite interaction.
• Co-organizer, 2019 University College Leadership Conference, University of Toronto - Directed an executive team of 12 members to develop an agenda for the conference consisting of intercultural awareness and networking to enhance leadership skills of 300 student attendees.
• Team Leader, 2019 Toronto Thinks: Global Health Case Competition - Recipient of the “Best Undergraduate Team” award for developing a comprehensive strategic plan to alleviate unemployment and promote health amongst women in Rwanda and Uganda.

PERSONAL INTERESTS

• Entrepreneurship, travel, AI, machine learning, and disruptive technologies in health care
SUMMARY OF SKILLS AND ACHIEVEMENTS

- Passionate about digital health with over 3 years of experience in pharmaceutical digital marketing
- Strong analytical and problem-solving skills enhanced through various data analytics and programming tools such as Blender, Crimson Hexagon, HTML and CSS, JavaScript, R, and Tableau
- Motivated and positive team player with an excellent work ethic and the ability to adapt and thrive in a fast-paced environment through marketing agency experience
- Outstanding budget and timeline accountability with experience in managing day-to-day finances for multiple projects and a track record of consistent reporting and the ability to forecast budgets
- Business-oriented by managing client expectations and being strategic in order to achieve client goals and identify ongoing opportunities
- Knowledgeable in medical, legal and regulatory review processes to ensure medical accuracy and compliance

EDUCATION

- Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
- Honours Bachelor of Science, Global Health Major, University of Toronto, Class of 2015

EXPERIENCE AND QUALIFICATIONS

- Digital Health Project Manager, Klick Health – Skilled in overseeing interdisciplinary teams at all phases of a project lifecycle from virtual reality experiences to CRM email projects for pharmaceutical companies
- Clinical Trial Project Assistant, Botswana Harvard AIDS Institute – Key player in leading clinical trial audit and implementing an electronic health record system to capture patient trial data, previously in paper format for the Botswana Combination Prevention Project in over 10 different locations throughout the country
- Co-President, Dignitas Youth, University of Toronto – Inspired the team at the university to lead 5 major educational initiatives for HIV/AIDS disease awareness

PERSONAL INTERESTS

- Adventure Seeker
- Biking
- Rock Climbing
- Cooking
- Global and Public Health
- Health Apps and Technologies
SUMMARY OF SKILLS AND ACHIEVEMENTS

- Excellent teamwork and leadership skills developed through project-based experiences, executive roles in extracurriculars and by working in cross-functional teams
- Exceptional problem solving and critical thinking skills demonstrated through research projects with McMaster Research Shop, working in fast-paced customer service environments and graduate coursework
- Strong analytical skills cultivated through professional and academic research experiences requiring extensive data analysis
- Technical skills: Blender (3D modeling program), Crimson Hexagon (social media analytics software), coding in JavaScript, coding in Python, coding in R, Tableau (data visualization software), coding in SQL, web design
- Demonstrated outstanding academics by being placed on the McMaster University Deans’ Honour List (2015–2018) and graduating with distinction

EDUCATION

- Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
- Honours Bachelor of Science, Life Sciences, McMaster University, Class of 2018

EXPERIENCE AND QUALIFICATIONS

- Research Associate, McMaster Research Shop – Conducted literature reviews and analyzed data from surveys, interviews and focus groups to provide research-grounded advocacy to community organizations in Hamilton
- Volunteer, Credit Valley Hospital – Volunteered over 100 hours in various departments resulting in increased productivity and improved patient experience
- Operations Clerk, Primerica Financial – Updated and managed financial databases, and processed high-value time-sensitive transactions of more than 100 clients on a daily basis
- Worked in a small team to create STReamline, an automated literature screening tool that uses machine learning to simplify the scientific literature review process
- Data Science in Health final project – Used R statistical software to conduct regression analysis to determine the relationship between sleep disturbance and demographic variables of lung transplant patients

PERSONAL INTERESTS

- Reading, graphic design, programming, artificial intelligence, drawing, traveling, hiking, music
Digital Health Meets Data Science.

Michelle Meringer  
DHT

SUMMARY OF SKILLS AND ACHIEVEMENTS
• Rigorous work ethic developed through a background in performance-driven tech sales & clinical research.
• Strong project management and data analysis skills developed through four research projects, resulting in awards and publications in highly esteemed peer-reviewed journals.
• Excellent communication skills cultivated in both professional and academic settings with team members, clients and patients.
• Exceptional time management capabilities established through successfully maintaining a full academic schedule, part-time sales career and volunteering commitments during Master’s degree.
• Equipped with technical (JavaScript, R, Crimson Hexagon, Tableau, Blender), analytical (data science and visualization) and business (sales, project management, CRM, presentation) skills.

EDUCATION
• Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
• Ontario Graduate Scholarship ($15,000) recipient, awarded to one student within the Institute of Management and Innovation (2019)
• BScH Life Sciences Specialization, Queen’s University (2018)
• Certificate in Business, Smith School of Business at Queen’s University (2018)

EXPERIENCE AND QUALIFICATIONS
• Sales at BlueRush (Present) and AlayaCare (2018-2019) driving sales within both Fintech and Healthtech B2B verticals.
• Project Manager on a team consulting for RBC Healthcare (2019) conducting a market opportunity analysis project through the Rotman School of Management.
• Undergraduate thesis project at Queen’s University (2017-2018) in microbiology and immunology investigating tumour–macrophage interactions.
• Summer Student at Sunnybrook Hospital (2015-2017) conducting prostate cancer research with a focus on elucidating the mechanism behind radiation resistance.
• Published scientific co-author in the Journal of Translational Medicine (2019) on a publication assessing prognostic biomarkers of prostate cancer invasiveness.
• Two-time recipient of D+H Summer Studentship $3,200 research stipend at Sunnybrook (2015, 2016).
• Volunteer in the surgical oncology ward at Mount Sinai Hospital (2019-Present) and adult mental health unit at Providence Care Hospital (2015-2018).

PERSONAL INTERESTS
• Speedskating, skiing, Alzheimer’s research, Model United Nations, tech trends, and brunching.

Digital Health Meets Data Science.
SUMMARY OF SKILLS AND ACHIEVEMENTS
• Highly organized, open-minded and driven individual with a diverse background in science, technology, and business
• Effective programming skills as evidenced by coding programs in R script that analyze and visualize clinical research data from liver transplant patients
• Strong analytical skills gained from interpreting qualitative research data through the application of developmental psychology theory as a volunteer research assistant at the University of Toronto
• Excellent interpersonal skills demonstrated by coordinating with various logistics teams to maintain a cohesive product shipment process and to deliver quality standard drug products at Teva Pharmaceuticals
• Excellent presentation skills as demonstrated in a seminar presentation given to a group of 30 fourth year Human Biology students about CAR T cell cancer therapy and generating productive discussion on the benefits and disadvantages of the technology

EDUCATION
• Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
• Honours Bachelor of Science, Double Major in Genetics and Psychology, and minor in Economics, University of Toronto, Class of 2019
• Awards: Dean’s List Scholar with High Distinction (2018-2019); New College Raptors Foundation In-Course Scholarship (2018)

EXPERIENCE AND QUALIFICATIONS
• Logistics Operator, Teva Pharmaceuticals – Assembled packages for commercial shipment maintaining quality standard, coordinated with several teams in the logistics department to facilitate a smooth shipment process
• Volunteer Research Assistant, University of Toronto – Analyzed qualitative research data sets to investigate the relationship between parenting styles and childhood developmental outcomes and organized the data in spreadsheets and statistical software
• Sales Associate, UPS Store Canada – Assisted customers with office and courier services, prepared packages for shipment, and maintained documentation for shipments and mail services
• Technical Experience – Coded programs on R (Statistical software), Blender (3D Modelling), JavaScript (+HTML and Web design), Tableau (Data Visualization software) and Crimson Hexagon (Social Media Analytics)

PERSONAL INTERESTS
• Browsing computer hardware components, video editing, eSports, following new genetics technologies
SUMMARY OF SKILLS AND ACHIEVEMENTS

• Strong skills and knowledge of website maintenance acquired by developing enterprise level web applications that applied knowledge of RESTful APIs.
• Exceptional analytical and problem-solving skills applied by using information theory techniques to canonicalize chemical structures in a chemical relational database made in MySQL.
• Effective and professional communication skills demonstrated by writing patch notes, conducting UI/UX demonstrations and discussing all design progress with clients and team members in order to provide a transparent development environment.
• Excellent in independent and team-based environments exemplified by coordinating production of custom applications with a team of environmental scientists and independently working to deliver features.
• Skilled in data visualization using Tableau and building interactive data visualizations for UI/UX using D3.js, experienced in statistical analysis using R and Python, proficient with digital content creation with Blender, competent with sentimental analysis using Crimson Hexagon platform.

EDUCATION

• Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
• Honours Bachelor of Science with Distinction, Biological Chemistry Specialist, University of Toronto, Class of 2017

EXPERIENCE AND QUALIFICATIONS

• Developer, Department of Biology UTM—Developed a location-based web application to track campus wildlife. Python based Django back end server with front end made in ReactJS and Redux.
• Researcher, Arnot Research and Consulting—Developed a web application to search through curated database of more than 57000 unique environmental records. Employed NodeJS to design RESTful API and run back end server and ReactJS to develop user interface. Database queries were performed with MySQL.
• Researcher, Arnot Research and Consulting—Optimized state-of-the-art machine learning object detection model Faster R-CNN to detect data tables in research papers. Used Tensorflow API to get predictions from trained model for direct conversion of pdf tables into excel sheets. The aim of the project was to achieve automation of data collection from large amounts of research papers and my work acted as proof of concept
• Computer Science Teaching Assistant, University of Toronto—Instructed students in data structures and algorithm complexity. Wrote unit tests and doc tests to grade work.

PERSONAL INTERESTS

• Fly fishing, motorcycles
SUMMARY OF SKILLS AND ACHIEVEMENTS
- Strong strategic thinking and problem solving skills shown by successful completion of an undergraduate independent research project focused in pushing the boundaries of QIAxcel
- Exceptional interpersonal skills as a swim instructor for Paralympic Sports Association (2015-2019)
- Innovative thinking demonstrated by creating a analytic computer program independent of course studies which facilitated research data calculations
- Dedicated and excellent time management skills demonstrated in achieving Dean’s Honors List as a student at MacEwan University while acting as vice president of the International Student Club, volunteering as a swim instructor and being the President in local Christian men’s organization

EDUCATION
- Master of Biotechnology, Digital Health Technologies stream, University of Toronto, Class of 2021
- Bachelor of Science Majoring in Biology, MacEwan University, Class of 2019
- Dean’s Honor List Recipient (2017,2018,2019)

EXPERIENCE AND QUALIFICATIONS
- Undergraduate Independent Research project, titled “Toward a novel method for the evaluation of phosphatase inhibitors of the DNA repair enzyme PNKP”- involved quantifying and analyzing enzymatic activity data
- Experience with HTML and CSS for web design
- Capable of generating 3D objects using blender software
- Proficient in analytic software program, Crimson Hexagon
- Produced data reports using Tableau (data visualization software)
- Experience with computer programming languages Python, R and JavaScript
- Recreation Activities Director for local church congregation of over 50+ people

PERSONAL INTERESTS
- Wood working
- Hiking
- Waterskiing
University of Toronto Mississauga
uoft.me/DHT

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