Dominique Dupont-Jillings
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416-605-0667

Dominique Dupont-Jillings

Current M.Sc. student (computational sciences), prospective Ph.D. student (engineering sciences)

EDUCATION

LAURENTIAN UNIVERSITY

- Current M.Sc. thesis student in computational sciences, supervised by Dr. Passi and Dr. Appanna.
- 2024 GPA: 9.25 (a 9 represents a grade range between 85%-89%).
- 2023 GPA: 8.4 (an 8 represents a grade range between 80%-84%).
- Co-authored a paper titled “Metabolism of terephthalic acid by a novel bacterial consortium produces valuable by-products” which has been submitted to FEMS Microbiology Letters.
- Currently working on building a machine learning program that can determine efficient chemical degradation pathways to support biological efforts to genetically modify pseudomonas putida for more effective TPA degradation to address the global plastic waste crisis.

MCMASTER UNIVERSITY

- Completed an Honors B.Sc. in mathematics and statistics between September 2013 and June 2018.
- Volunteered as a member of the Math and Stats society throughout my degree, serving as president from May 2015 to April 2016.
- Awarded an Undergraduate Summer Research Award (NSERC – USRA) and studied predator prey models under Dr. Wolkowicz in 2015.
- Recognized as a Marauder scholar based on having a high GPA while being a student-athlete (gymnastics).
- Attended the Summer School for Women in Math and the University of British Columbia in 2016.
- Wrote an undergraduate honors thesis studying simplicial homology and the Cohen-Macaulay properties of circulant graphs under Dr. Van-Tuyl.
- Presented a poster based on my undergraduate thesis project at the Canadian Mathematical Society Winter Meeting in 2017.
- Spent a semester as a visiting student at Simon Fraser University in 2018.

WORK AND VOLUNTEER EXPERIENCE

ALGORITHM INTERN | RNA DIAGNOSTICS | 2025 – CURRENT

- RNA Diagnostics developed a biomarker which measures solid tumor response to neoadjuvant cancer treatment which is currently in clinical trials.
- As the algorithm intern, my role is to develop, validate and implement an algorithm which quantifies fragmentation of rRNA.

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PEER SUPPORT VOLUNTEER | WAKE UP NARCOLEPSY | 2024 – CURRENT

- Volunteer peer support worker for online Wake Up Narcolepsy peer support groups.
- These groups support individuals with narcolepsy and idiopathic hypersomnia navigate difficulties managing their chronic illness alongside their work, school, and personal lives.
- As a disabled student, I provide support and tools to others to manage complex invisible illness with the rest of their life goals.

TUTOR | SELF EMPLOYED | 2012-CURRENT

- Tutors grade 1 through university level classes. Focus on mathematics, computer science & physics.
- Most recently tutored students through successful completion of differential calculus, integral calculus, algorithm design and complexity, discrete mathematics, and introduction to probability and statistics.

VOLUNTEER INTERN | GREY-BOX | SUMMER 2024

- Team-lead on the Medical Codex project, a project that works to create a medication translation tool for doctors working abroad in remote areas and high conflict zones.
- Worked to merge and develop databases and translation tools to properly translate medication names, ensuring source reliability.
- Tested and compared various algorithms to determine the most reliable methods available to solve problems.
- Wrote and presented reports regarding progress and results to ensure smooth transition to the next group of interns taking over the project.

MATH TUTOR | SIMON FRASER UNIVERSITY | WINTER 2018

- Tutored students in their math class as part of the IUPP program at SFU.
- This program is a one-year program that helps prepare Indigenous students to enter University.

SKILLS & ABILITIES

- Statistical Analysis
- Programming in Python, R, Java and MATLAB
- Report writing and presenting
- Works well with interdepartmental groups
- Tutoring and teaching complex ideas
- Bilingual (native French and English speaker)