Gaia Noseworthy

Scientific Computing, Community Engagement, Professional Writing

gaianoseworthy | gaianoseworthy | gaia.noseworthy@unb.ca | +1(506)429-7388

Work Experience

ASSISTANT RESEARCHER | University of New Brunswick

May 2019 - Aug 2019: Thermodynamics
May 2020 - Apr 2021: COVID-19 Modelling
May 2021 - Aug 2022: Non-Commutative Algebra
May 2023 - Aug 2023: Wave Gravitation

- Designed, programmed, tested, and improved upon agent-based disease models and thermodynamical models of sizes up to 50,000 agents.
- Implemented and improved upon numerical methods for ODEs and PDEs.
- Learned, used, and optimized algorithms and programs in new languages.
- Presented results through graphical and written reports with team leaders, external team members, and government researchers on a weekly basis.
- Collaborated with collegues, supervisors, and fellow researchers to complete various research projects, programs, reports, and presentations.

TEACHING ASSISTANT | University of New Brunswick

Jan 2020 - Present: Intro Programming, Intro Calculus, and Intro Statistics

- Organized and led daily and weekly tutorial sessions in which extra practice, worked examples, and general review was provided for class material.
- Provided detailed feedback on class work through Crowdmark.
- Administered and monitored class midterms, final exams, and other coursework.
- Tutored students one-on-one and in groups in a wide variety of subjects, including introduction to programming, introduction to calculus, and statistics.

Research Projects

HONOURS PROJECT ON MAGNETIC RESONANCE MODELLING | LaTeX, C

Sep 2022 - Apr 2023

- Developed a parallelized, user-friendly piece of software in C to model molcular spin flips in magnetic resonance measurements.
- Formed a strong theoretical framework using existing MR theory to ensure accuracy to real-life data.
- Collected data using the Compute Canada computing netork and local machines with the parallelized software using up to 100 computing nodes.
- Analyzed the model versus expected results to test Brownstein-Tarr theory.

ANALYSIS OF SOCIAL MEDIA COMMUNITIES THROUGH REDDIT | LaTeX, Python

Aug 2022 - May 2023

- Modified and specialized a Python-based application for collecting comment, user, and community data from Reddit.
- Categorized, analyzed, and plotted results of user activity throughout communities.
- Studied social media activity and possible pathways between communities to research social behaviour, community connectivity, and moderation policy.

Publications

- Noseworthy, Gaia. (2023) “Pathways to the Far-Right - Exploring the Use of Social Media in Right-Wing Political Polarization Through Reddit“ Off Campus: Seggau School of Thought 9, pp. 101-121. DOI: 10.25364/25.9:2023.7

Education

UNIVERSITY OF NEW BRUNSWICK

Bachelor's in Science
Bachelor's in Computer Science

- Honours in Mathematics-Physics
- Honours in Computer Science
- Major in Statistics

GPA: 4.0 / 4.3

Skills

TECHNICAL

Programming
C • Python • Julia • Java • SQL • Octave • Javascript • Racket
Scientific Computing
R • Maple • SageMath
Presentation
LaTeX • Microsoft Office

PERSONAL

Leadership • Critical Thinking • Time Management • Organization

TRANSFERRABLE

Problem Solving • Public Speaking • Research

LANGUAGES

- English(Native)
- German (A2)
- French (A2)

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Extracurricular Experience

ELECTED POSITIONS

UNB BOARD, SENATE, AND STUDENT UNION - ELECTED MEMBER

Sep 2021 - Present

- ➔ Served as an elected student member on UNB's Board of Governors, working within the main body, the advancement committee, and the finance committee to forward student interests into the next 10-year plan.
- ➔ Served as an elected student member on UNB's Senate, working within the main body and multiple committees to advocate for students on campus-specific issues, including program offerings, academic disputes, and student tuition.
- ➔ Served as an elected member on UNB's Student Union, working as a vocal advocate and active member on student issues, including policy, official student advocacy offerings, student events, and internal stability and accountability.

NEW BRUNSWICK PROVINCIAL ELECTION - OFFICIAL CANDIDATE

Sep 2020

- ➔ Served as an official candidate for the Fredericton South region. Fundraised, promoted, and campaigned in a snap election. Debated officially on CBC Radio One and in Universities against provincial party leaders and candidates.

LEADERSHIP

CHSR COMMUNITY RADIO - EXECUTIVE CHAIR AND SHOW HOST

Nov 2019 - Present

- ➔ Served as a host for a conversational debate show, a video game design show, and a horror show. Elected executive chair in Dec. 2019, with a focus on station growth and development, and post-COVID recovery of the station.

HILL DEBATE SOCIETY - FOUNDER AND LEADER

Jan 2019 - Present

- ➔ Founded and led the UNB Debate Club, later the Hill Debate Society, focused on giving safe and educational spaces for students to develop skills in debate, public speaking, conflict de-escalation, and compromise development. Organized and hosted an Atlantic Canada debate tournament in January 2023.

Conferences and Workshops

ACADEMIC

Feb 2023	Atlantic Undergraduate Physics and Astronomy Conference
Oct 2022	Mathematics For Public Health Festival 2022
Jul 2022	University of Graz 2022 Summer School Program
Jul 2021	AARMS Industrial Problem Solving Workshop
Jul 2019	AARMS Industrial Problem Solving Workshop
May 2019	Atlantic General Relativity Conference

LEADERSHIP

Mar 2022	Canadian Engineering Competition (Organizer and Debate Moderator)
Feb 2021	Canadian Engineering Competition (Organizer and Debate Moderator)
Jan 2021	ASRJ Reaching Higher Conference (Organizer and Speakers Director)
Nov 2020	Change The World Virtual Model United Nations
May 2019	National Student Commonwealth Forum

Awards

RESEARCH

- 4x NSERC Undergraduate Student Research Awards
- NSERC Engage Research Award

ACADEMIC

- Schulich Leader Scholarship
- Computer Science Prize for Best Senior Honours Thesis
- Margot Roach Scholarship in Physics
- UNB Applied Statistics Centre Prize I
- UNB Dean's List

Relevant Courses

COMPUTER SCIENCE

- Parallel Processing
- Algorithm Design & Analysis

MATHEMATICS

- Numerical Methods for Differential Equations
- Differential Geometry

PHYSICS

- General Relativity
- Quantum Mechanics
- Electromagnetism

STATISTICS

- Statistical Computing
- Multivariate Methods for Statistical Learning