

Al Gorithm

Montreal, QC | (314) 159-2653 | al.gorithm@concordia.ca | [linkedin.com/in/al-gorithm](https://www.linkedin.com/in/al-gorithm)

TEACHING SUMMARY

Graduate instructor and applied mathematics researcher with over three years of experience teaching and tutoring at elementary, secondary, and undergraduate levels. Experienced in supporting undergraduate calculus and algebra instruction through tutorials, office hours, and assessment, with a learner-centered and evidence-based teaching approach.

RESEARCH INTERESTS

- Computational complexity and algebraic structures
- Algebraic geometry and Gromov-Witten theory
- Mathematical pedagogy technology-enhances undergraduate instruction

EDUCATION

Master of Science, Applied Mathematics

Dec 2025

Concordia University – Montreal, QC

- Thesis: Computational complexity in algebra | Supervisor: Lyne Yer
- Examined computational questions with a focus on general algebraic structures and connections between decision problems and logical properties of algebras.

Bachelor of Science, Mathematics and Statistics

Jun 2019

McGill University – Montreal, QC

SCHOLARSHIPS & AWARDS

NSERC Science Exposed, 2024 – \$2,000 CAD

Canada Graduate Research Scholarships – Master’s (CGRS M), 2023 – \$27,000 CAD

Merit Scholarship, 2022 – \$5,000 CAD

TEACHING AND PEDOGOGICAL TRAINING

Graduate Seminar in University Teaching for Science Students

Oct 2024

Centre for Teaching and Learning, Concordia University – Montreal, QC

- Attended a 25-hour seminar series specifically designed for graduate students pursuing a career in teaching.
- Covered lesson planning, syllabus design, evaluation methods, assignment development, classroom management techniques.
- Applied evidence-based teaching practices in tutoring.

TEACHING EXPERIENCE

Mathematics Tutor

Sept 2023 - Present

Centrétudes – Montreal, QC

- Provide individualized mathematics instruction to elementary and secondary students across diverse learning needs.
- Design personalized lesson plans aligned with provincial curricula and parental objectives.
- Assess student progress and adjust instructional strategies accordingly.
- Communicate student progress and learning goals to parents.

Teaching Assistant (Differential & Integral Calculus I)

Sept - Dec 2025

Department of Mathematics and Statistics, Concordia University – Montreal, QC

- Led weekly online tutorials for large undergraduate calculus courses.
- Reinforced problem-solving techniques through guided examples and practice sets.
- Held weekly office hours providing individualized academic support.
- Responded to student questions via online learning platforms.

Teaching Assistant (Fundamentals of Algebra)

Sept 2024 - Jul 2025

Department of Mathematics and Statistics, Concordia University – Montreal, QC

- Led tutorials for large groups of undergraduate-level students in two sections.
- Focused sessions on specific areas of difficulty and provided additional support.
- Complemented lecture materials through target discussions and problem-solving sessions.
- Designed and graded quizzes contributing to final course assessments.
- Met weekly with the course instructor to coordinate objectives and evaluate student progress.

Marker – Assessment Support

Sept 2024 - Jul 2025

Department of Mathematics and Statistics, Concordia University – Montreal, QC

- Graded undergraduate midterm and final examinations.
- Evaluated assignments and provided written feedback to support learning outcomes.

RESEARCH EXPERIENCE

Research Assistant

Sep 2023-May 2024

Department of Mathematics and Statistics, Concordia University – Montreal, QC

- Conducted mathematical research in Gromov-Witten theory under the supervision of Dr. Matt Matykal.
- Assisted with formal proofs and literature review related to applications in birational geometry and mirror symmetry.
- Strengthened ability to explain abstract mathematical concepts for undergraduates.

COMMUNITY ENGAGEMENT & EDUCATIONAL OUTREACH

Mathematics and Science Tutor

2022-2024

William Hingston Community Centre – Montreal, QC

- Provided mathematics and science tutoring to elementary-level students in a community outreach setting.
- Supported learners from newcomer backgrounds by adapting instruction to varying educational and language needs.
- Reinforced foundational numeracy and problem-solving skills through guided practice.

Jury Member for Final Undergraduate Mathematics Projects

May 2023

Department of Mathematics & Statistics, Université de Laval – Laval, QC

- Served as a jury member for final undergraduate mathematics projects.
- Evaluated mathematical rigor, originality, and clarity of presentation.
- Participated in selecting award-winning projects.

Assistant Coach

2020-2022

Sun Youth Organization – Montreal, QC

- Assisted in coaching and mentoring youth athletes aged 14 to 17.
- Supported skill development, teamwork, and goal setting in a structured training environment.
- Ensured participant safety and well-being during practices and competitions.

ACADEMIC SERVICE

Student Member

Sep-Oct 2023

Department of Mathematics & Statistics, Concordia University – Montreal, QC

- Served as a graduate student representative on the departmental tenure and promotion committee.
- Reviewed faculty dossiers and contributed to discussions evaluating teaching effectiveness, research output, and service contributions.

PUBLICATIONS, INVITED TALKS & CONFERENCE PRESENTATIONS

Matykal, M., Gybra, A. (2024) *Equivariant Gromov-Witten Theory and Mathematical Physics*. *Annals of Statistics*, 42: 3012-3023.

INVITED TALKS & CONFERENCE PRESENTATIONS

Co-Presenter

Jul 2025

“Equivariant Gromov-Witten Theory and Mathematical Physics”

Centre International de rencontres mathématiques (CIRM) – Luminy, France

- Invited to present with Dr. Matt Matykal.

Co-Presenter**Jan 2024**

“Representation Theory of Algebras”

Department of Mathematics & Statistics Colloquium, University of Windsor – Windsor, ON

- Invited to present with Dr. Matt Matykal.

Invited Speaker**Jan 2023 & 2024**

Department of Mathematics & Statistics, McGill University – Montreal, QC

- Invited by Dr. Cal Coolose to lead a seminar and discussion on Homological Algebra for an undergraduate-level Enriched Linear Algebra and Geometry class for two consecutive years.

Guest Lecturer**Feb 2021 & 2022**

Department of Mathematics & Statistics, McGill University – Montreal, QC

- Invited by Dr. May Trixx to lead a seminar and discussion on Ring Theory for an undergraduate-level Linear Algebra and Probability class for two consecutive years.

TEACHING & INSTRUCTIONAL SKILLS

- UNIX, LINUX, Window OS
- SAS, Latex, Mathematica, Maple
- C, C++
- Word, Excel, Access, PowerPoint

LANGUAGE

- Fluent in English, French, and Hungarian
- Basic Polish

OTHER WORK EXPERIENCE

Barista**2019-2024**

Cat Cafe – Montreal, QC

- Balanced work and studies during both undergraduate and graduate degrees.
- Developed effective communication and listening skills through work in customer service.
- Entrusted with keys to the cafe and management responsibilities when owner was away.