

J r mie Turcotte

Curriculum vitae

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Education

- 2018 - 2020 **Master's in mathematics**, *University of Montr al*.
(currently attending)
- o Master's thesis : The game of cops and robbers of various graph classes
 - o Supervisors : Ge na Hahn (Department of Computer Science and Operations Research) and Ben Seamone (Department of Computer Science and Operations Research and Dawson College)
- 2015 - 2018 **Bachelor's in pure and applied mathematics**, *University of Montr al*.

Work experience

- Fall 2020 **Lecturer**, *University of Montr al*.
o Course : Symbolic calculation and applications (MAT1680)
- Summer 2020 **Data science software development intern**, *Genetec Inc.*
- 2017 - 2019 **Teaching assistant**, *University of Montreal*.
o Computer assisted mathematics (MAT1681) : Fall 2019, Fall 2018, Winter 2018, Fall 2017
o Symbolic calculation and applications (MAT1680) : Fall 2019
o Graphs and networks (IFT3545/MAT6490) : Winter 2019
o Analysis 1 (MAT1000) : Fall 2018
o Discrete structures in computer science (IFT1065) : Fall 2017
- Summer 2017 **Research intern**, *University of Montreal*.
o Supervisor : Paul M. Gauthier, Department of Mathematics and Statistics
o Research topics : Complex analysis, approximation theory, measurability

Technical expertise

- o Advanced knowledge: Wolfram Language (Mathematica), Java
- o Some experience: Julia, C++, MATLAB, HTML, LaTeX, R, Python

Prizes and scholarships (by date of results)

- Fall 2018 **Georges-Baril Prize**, *Faculty of arts and sciences (University of Montreal)*.
- Fall 2018 **Jean-Maranda Prize**, *Department of Mathematics and Statistics (University of Montreal)*.
- Winter 2018 **Canada Graduate Scholarship - Master's**, *Natural Sciences and Engineering Research Council (NSERC)*.
- Winter 2018 **Master's research scholarship (B1X)**, *Fonds de recherche du Qu bec - Nature et technologies (FRQNT)*.
- Fall 2017 **Supplements of the NSERC Undergraduate Student Research Awards**, *Fonds de recherche du Qu bec - Nature et technologies (FRQNT)*.
- Summer 2017 **Undergraduate Student Research Award**, *Natural Sciences and Engineering Research Council (NSERC)*.
- Spring 2015 **Desjardins scholarship for excellency in the Computer Science and Mathematics program**, *Caisse Desjardins de Bois-Franc-Bordeaux-Cartierville*.
- Spring 2015 **Mathematics scholarship**, *Coll ge de Bois-de-Boulogne*.

Publications (available on my website)

Submitted

Jérémie Turcotte and Samuel Yvon. 4-cop-win graphs have at least 19 vertices. *Submitted*, 2020.

Jérémie Turcotte. Cops and robbers on $2K_2$ -free graphs. *Submitted*, 2020.

Peter Bradshaw, Seyyed Aliasghar Hosseini, and Jérémie Turcotte. Cops and robbers on directed and undirected abelian Cayley graphs. *Submitted*, 2019.

Accepted

Paul M. Gauthier, Thomas Ransford, Simon St-Amant, and Jérémie Turcotte. Approximation by random complex polynomials and random rational functions. *Annales Polonici Mathematici* 123, pages 267–294, 2019.

Presentations

Seminars

2020 **The Math of Pac-Man, and Other Pursuit-Evasion Games : Introduction to the game of cops and robbers**, *Genetec TechTalks*.

Presentation on the game of cops and robbers (in French), *Student summer seminar, Department of Mathematics and Statistics (University of Montreal)*.

2019 **Cops and robbers on abelian Cayley graphs (in French)**, *University of Montreal student seminar in mathematics (SÉM)*.

2018 **Presentation on the anthropic principle (in French)**, *University of Montreal mathematics club (Clubmath)*.

Presentation on errors in mathematics (in French), *Seminars in Undergraduate Mathematics in Montreal (SUMM)*.

Presentation on errors in mathematics (in French), *University of Montreal mathematics club (Clubmath)*.

2017 **Presentation on infinite friendship graphs (in French)**, *University of Montreal mathematics club (Clubmath)*.

Programming projects

2020 **Graph merging algorithm**, *Designing and implementing an algorithm used in a computer-assisted proof in the article "4-cop-win graphs have at least 19 vertices"*.

Fall 2018 **Dynamical systems class project**, *Implementation of algorithm to reverse ϵ -machines in Mathematica*.

Winter 2018 **Clubmath website**, *Redesign of the University of Montreal mathematics club website*.

Winter 2016 **ConUHacks**, *Software to parallelize mathematical calculations with the GMP library over a cluster with SSH*.

Winter 2015 **Chess app**, *Cégep final project, Android app with Bluetooth connection and basic minimax algorithm*.

2014-2015 **Robotics team**, *Main programmer of Bois-de-Boulogne robotics team (2014-2015), 2015 winning robot of CRC robotics and winner of the programming competition*.

Additional activities

Involvement

2017-2018, 2019-2020 **Student representative on the departmental assembly**, *Department of Mathematics and Statistics (University of Montreal)*.

2017-2018 **Member of the organizing committee**, *University of Montreal mathematics club (Clubmath)*.

Reviewing

- Discrete Mathematics
- Discussiones Mathematicae Graph Theory