

Education

- **Ph.D. in Mathematics** 2019 – Today
Concordia University, Montréal
 - Interests: Computational Number Theory, Elliptic curves, Function fields
 - Supervisor: Giovanni Rosso
- **M.A. in Mathematics** 2017 – 2019
Université Laval, Québec
 - Interests: Computational Number Theory, Modular forms, Class numbers
 - Supervisor: Antonio Lei
- **B.A. in Mathematics with honours** 2014 – 2017
Université Laval, Québec

Programming and Software skills

- Programming: Python, C++, PERL (WeBWorK), Bash scripting
- Software: git, SageMath, PARI/GP, Microsoft Office Suite, GNU/Linux
- Github: github.com/DavidAyotte

Experiences

- **Python Developer for SageMath mathematical software** 2021 – Today
Google Summer of Code (Summer 2021), Voluntary basis (since Fall 2021)
 - In summer 2021, I participated in the Google Summer of Code (GSoC) where I worked as a student programmer for the open-source mathematical software SageMath. I blogged about my experience on my website.
 - My contributions include: code reviews, bug fixes and new enhancements.
- **Teaching assistant** 2016 – 2021
Université Laval and Concordia University
 - Assistant in two linear algebra courses and one advance algebra course (ring theory)
 - Solve problems on the blackboard in front of a class
 - Help student individually through personal meetings, a forum or emails
- **WeBWorK assistant** 2017 – 2019
Université Laval, Québec
 - Learned how to use the WeBWorK language (based on PERL)
 - Programmed more than a hundred automated random problems for two courses
 - Wrote a guide based on my experiences and learning of the platform for the future WeBWorK users of UL

- **Sage Days 87 workshop: p -adics in Sage and the LMFDB** July 2017 (1 week)
University of Vermont, Burlington, USA
 - Learned how to develop the python-based open-source software Sagemath
 - Contributed to the software by fixing bugs and reviewing codes
 - Worked in collaboration with various students and researchers from around the world
- **Summer research projects** Summer 2015, 2016 and 2017
Université Laval, Québec
 - Carried out numerical calculation on different advanced math concepts such as the class number of cyclotomic fields and the symmetric square L -function of a modular form
 - Worked in collaboration with another researcher (Prof. Antonio Lei) and graduates students
 - Wrote a paper on properties of supersingular Weyl polynomials (summer 2015)
 - Programmed using specialized software in mathematics such as Maple and SageMath to obtain numerical results

Publications

- Ayotte D., *Relations entre le nombre de classes et les formes modulaires*, Master's thesis, 63 pages, 2019
- Ayotte D. and Lei A. and Rondy-Turcotte J.-C., *On the parity of supersingular Weil polynomials*, Archiv der Mathematik, 6 pages, February 2016.

Scholarships and Awards

- FRQNT Doctoral research scholarship 2020 to 2023
- Concordia School of Graduate Studies top-up funding 2020
- Teaching assistant scholarship of the Mathematics Department at U. Laval 2017
- Mention on the roll of honour of the Mathematics Department at U. Laval 2016 and 2017
- NSERC undergraduate summer scholarship 2016
- FRQNT supplement to the NSERC undergraduate summer scholarship 2016
- ISM undergraduate summer scholarship 2015

Other Interests and Volunteering

- **Member of the Club de Triathlon de l'Université Laval** 2016 – 2018
Université Laval, Québec, Canada
- **Lifeguard and swimming instructor** 2011 – 2014
Roberval, Canada
- **Volunteer as a lifeguard for the Traversée Internationale du lac St-Jean** 2011 – 2015
Roberval, Canada
- **Cyclist for the Fondation des Pompiers du Québec pour les Grands Brûlés** 2011
La Baie – Roberval, Canada