GRAYSON R. DAVIS

grayson.davis@nyu.edu
https://graysonrdavis.github.io/

EDUCATION

Courant Institute of Mathematical Sciences (NYU) New York, NY, USA
Ph.D. in Mathematics 2024 - 2029 *(expected)*
- Research interests: PDEs, applied analysis, computer-assisted proofs

Simon Fraser University (SFU) Burnaby, BC, Canada
BSc in Mathematics (Honours First Class with Distinction) 2020 - 2024
- Honours Thesis: Finite Element Approximation of the Modified Steklov-Maxwell Eigenproblem
- Advisor: Nilima Nigam
- GPA: 4.25/4.33

RESEARCH PROJECTS

Recent Developments in the Analysis of Nonlinear Kinetic Equations (SFU)
Supervisor: Weiran Sun May 2024 - August 2024
- Explored kinetic Schauder-type estimates with applications to the Landau equation.
- Studied the regularity of solutions to a linear kinetic Fokker-Planck equation with initial data that has a logarithmic modulus of continuity.

Spectral Geometry of the Steklov-Maxwell System (SFU)
Supervisor: Nilima Nigam May 2023 - December 2023
- Examined the theoretical and numerical properties of a Steklov-type eigenvalue problem for Maxwell's equations.
- Numerically tested the accuracy of conforming and non-conforming finite elements in computing the Steklov-Maxwell spectrum.

TEACHING

MATH 322: Complex Variables (SFU)
Teaching Assistant September 2024 - December 2024

MATH 150: Calculus I with Review (SFU)
Calc Connect Peer Mentor (Volunteer) September 2022 - April 2024

SELECTED AWARDS

- **2023 Undergraduate Research Prize** (SFU Department of Mathematics) August 2024
  Given in recognition of excellence in mathematical research at the undergraduate level
- **Dean of Science Convocation Medal** (SFU Faculty of Science) June 2024
  Awarded by the Dean of Science to one graduating student whose grades put them in the top five per cent of their class
- **NSERC Undergraduate Student Research Award** (SFU) March 2024
  Grant from the Natural Sciences and Engineering Research Council of Canada (NSERC)
- **Department of Mathematics Award** (SFU Department of Mathematics) October 2023
  Given to students who are passionate about their studies and make positive contributions to the SFU community
- **NSERC Undergraduate Student Research Award** (SFU) March 2023

SKILLS

Coursework: Measure Theory, Functional Analysis, Complex Analysis, Partial Differential Equations, Linear Algebra, Fluid Dynamics, Topology, Dynamical Systems, Galois Theory, Group Theory, Commutative Algebra and Algebraic Geometry.

Programming: `MATLAB`, `Maple`, `FreeFem++`, `Python`, `LaTeX`