

Ivan V. Morozov

New York, NY

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Summary

Motivated mathematics student and researcher specialising in analysis and combinatorial and analytic number theory. Also studies music composition and clarinet, with experience in cross-disciplinary collaborations in geology, focusing on data analysis and quantitative problem-solving.

Education

The City College of New York <i>M.S., Mathematics (2026)</i> <i>Hon. B.S., Pure Mathematics (2025) (Summa Cum Laude)</i>	May, 2025/2026 New York, NY
Manhattan School of Music <i>B.M., Classical Clarinet</i>	May, 2027 New York, NY
Fiorello H. LaGuardia High School of Music & Art <i>High School Diploma, Instrumental Music</i>	June, 2022 New York, NY
The Juilliard School <i>Pre-College Diploma, Clarinet Performance</i>	May, 2022 New York, NY

Publications

- Qualitative model for hurricane-induced debris flow prediction: a case study of the impact of Hurricane Maria (2017) in Puerto Rico (with Y. Gorokhovich, G. Erpul, C.-Y. Lee, C. Hultquist, and Z. Q. Yin), *Geomatics* **6** (1) (2026), Article 15, pp. 1–14.
- On quotients of a more general theorem of Wilson, *Integers* **25** (2025), A93, pp. 1–12.

Awards & Honours

Dr. Barnett and Jean Hollander Rich Mathematics Scholarship <i>The City College of New York</i>	2025
The Belden Medal <i>The City College of New York</i>	2025
Bennington P. Gill Memorial Award <i>The City College of New York</i>	2025
Israel E. Drabkin Memorial Award <i>The City College of New York</i>	2025
William Feinberg Memorial Music Award <i>Alumni & Friends of Fiorello H. LaGuardia High School of Music & Art and Performing Arts</i>	2022
Concerto Competition Winner <i>Fiorello H. LaGuardia High School of Music & Art and Performing Arts</i>	2020

Research Experience

Research Assistant

June, 2024 – May, 2025

National Aeronautics and Space Administration (NASA)

New York, NY

- Title: Surface-based Precipitation Measurement Network in the Bronx: Science and Education Opportunities for Diverse and Minority Students.
- Supervisor: Dr. Yuri Gorokhovich.
- This project aims to add scientific and educational components to existing courses on weather and climate, geospatial data integration, hydrology, and environmental science, providing research experience to students of Lehman College using NASA GPM data and Geographic Information Systems.
- Responsible for preparing and testing teaching materials with Excel and Python.
- This poster was presented at the Annual American Geophysical Union Meeting held in Washington, D.C., December 9–14, 2024.

Research Assistant

October, 2023 – December, 2024

Columbia University, Lehman College, University of Ankara

New York, NY

- Title: Innovative Methodology for Real-Time Hurricane Induced Landslides Prediction: A Case Study of Hurricane Maria (2017) in Puerto Rico.
- In collaboration with Columbia University (Lamont–Doherty Earth Observatory), Lehman College (City University of New York), and University of Ankara (Turkey).
- Effectively utilising wind-driven rain as the principal criterion for an innovative methodology of predicting landslides. These forecasts were compared to the actual landslides in Puerto Rico that occurred after Hurricane Maria (2017). Responsible for data analysis and assessment, and quality control.
- This paper was presented at the Annual American Geophysical Union Meeting held in Washington, D.C., December 9–14, 2024.

Student Researcher, Emerging Scholars Program

July, 2023 – August, 2023

New York City College of Technology

New York, NY

- Title: Approaches to the Erdős–Straus Conjecture.
- Advisor: Dr. Satyanand Singh.
- Studying the long-standing problem that touches on properties of Egyptian fractions, which had been used in ancient Egyptian mathematics. There exist many partial solutions, mainly in the form of arithmetic progressions and therefore residue classes. This work explores partial solutions and aims to expand them.
- This poster was presented at the 1st Annual Celebrating Research Excellence Symposium at City Tech held at the New York City College of Technology, New York, August 10, 2023.

Student Researcher, Emerging Scholars Program

February, 2023 – May, 2023

New York City College of Technology

New York, NY

- Title: Number Theoretic Arithmetic Functions and Dirichlet Series.
- Advisor: Dr. Satyanand Singh.
- Studying number theoretic functions and their associated Dirichlet series. This field lay the foundation for deep research that has applications in cryptography and theoretical studies. This work ventures into the complex plane.
- This poster was presented at the Annual Metro New York Section Meeting of the Mathematical Association of America held at Pace University, New York, April 29, 2023.

Conferences and Presentations

American Geophysical Union

December, 2024

Paper presentation

Washington, D.C.

- Innovative Methodology for Real-Time Hurricane Induced Landslides Prediction: A Case Study of Hurricane Maria (2017) in Puerto Rico.

Poster presentation

- Surface-based Precipitation Measurement Network in the Bronx: Science and Education Opportunities for Diverse and Minority Students.

Annual Metro New York Section Meeting of the MAA

April, 2024

Poster presentation

New York, NY

- On Quotients of a More Generalised Theorem of Wilson.

1st Annual Celebrating Research Excellence Symposium at City Tech

August, 2023

Poster presentation

New York, NY

- Approaches to the Erdős–Straus Conjecture.

Annual Metro New York Section Meeting of the MAA

April, 2023

Poster presentation

New York, NY

- Number Theoretic Arithmetic Functions and Dirichlet Series.

Work Experience

Clarinet Teacher

September, 2024 –

P.S. 183

New York, NY

- Teaching 4th and 5th graders basics of clarinet and music-making in a small classroom setting.

Private teacher

- Providing private instruction for beginner and intermediate clarinet players.

Substitute Orchestra Musician

January, 2024 –

The Children's Orchestra Society

Syosset, NY

- Occasional clarinet substitute in an orchestra during rehearsals and performances.

IT Student Worker

September, 2023 –

Manhattan School of Music

New York, NY

- Resolving technical issues, providing assistance, and responsible for assembly and disassembly of various technical equipment.

Part–Time Mathematics and Physics Tutor

January, 2023 – March, 2023

Paper

Online

- Tutored students in mathematics and physics from elementary to high school, helping them overcome difficulties and meet their academic potential.

Programs, Festivals, and Extramural Performances

Downtown Music at Grace

20 November, 2024

Grace Episcopal Church, White Plains, New York

Leroy Anderson House Concert

7 November, 2021

Leroy Anderson House, Woodbury, Connecticut

Manhattan Borough Arts Festival

5 June, 2018

Peter Jay Sharp Theater, The Juilliard School

Skills

Other Languages: Russian (fluent), French (limited proficiency)

Programming Languages: Proficient knowledge of Python and Arduino languages.

Musical: Proficient clarinet playing, intermediate piano playing. Proficient knowledge of music theory and ear training.

Pedagogy: Excellent reputation of tutoring and teaching children in both classroom and virtual settings.