

About me

I have focused on mathematical research, solving hard problems requiring conceptual insights and computational skills. I found joy in programming, recognizing its importance in advancing my work. Additionally, I have explored machine learning, particularly reinforcement learning. Generally, I thrive by working on challenging problems that demand creativity, teamwork, and skill development.

Education

Ph.D. in Mathematics, *University of Denver* 2024
M.S. in Mathematics, *University of Denver* 2020
B.S. in Mathematics, *Salem State University* 2017

Skills

Coding: Mathematica, Python, MATLAB, HTML, CSS, \LaTeX .

Technical communication: Public speaking, teaching, problem solving, independently and in collaborative environment.

Languages: Fluent in English, Russian, Ukrainian, and B2 level in German.

Experience

Researcher 2017-present

- Conducting research on new, unsolved problems, to advance mathematical knowledge.

Articles

- *A Remark on Geodesics in the Banach-Mazur Distance*, with A. Arias 2018
- *Generalized Parafermions of Orthogonal Type*, with T. Creutzig, A. Linshaw 2022
- *Building Blocks for W -algebras of Classical Types*, with T. Creutzig, A. Linshaw 2024
- *First-order deformations of freely generated vertex algebras*, with F. Qi 2024
- *Virasoro reductions and inverse Hamiltonian reductions for W -algebras*, with J. Fasquel, S. Nakatsuka 2025
- *Minimal W -algebras of \mathfrak{so}_N at level -1* , with J. Fasquel, S. Nakatsuka, T. Creutzig, A. Linshaw 2025
- *New universal vertex algebras as glueings of the basic ones*, with T. Creutzig, A. Linshaw 2025
- *$\mathcal{N} = 2$ superconformal \mathcal{W}_∞* , with T. Creutzig, A. Linshaw, A. Song, U. Sun 2025

Talks

- *2 new universal objects*, BIRS 2025
- *On the universal 2-parameter VOA of type $\mathcal{W}(1^3, 2, 3^3, 4, \dots)$* , RMRT Seminar 2023
- *Universal 2-parameters algebras beyond \mathcal{W}_∞* , AMS Special Session 2022
- *$\mathcal{W}(2, N)$ -algebras*, AMS Special Session 2020

Instructor, *University of Denver* 2020-present

- MATH 1070, *College Algebra and Trigonometry* 2020
- MATH 1952, *Calculus II* 2021
- MATH 1941, *Calculus I Workshop* 2023

Graduate teaching assistant, *University of Denver and Salem State University* 2017-2024

- Help students to think independently and critically while emphasizing problem-solving and guiding them toward effective solutions.

Mentoring

- **Reinforcement learning** project with Abenezer Woldesenbet, *University of Denver* 2023

Mathematics tutor, *Mathnasium, Salem State University, University of Denver* 2016-2024

Financial analyst intern, *Artisan Partners* 2024

- Perform market analysis, write investment thesis, in an effort to find non-obvious insights into market dynamics.

Postdoctoral fellow, *Ferdinand-Alexander University Erlangen-Nuremberg* 2025-Present

- Research, teaching, with an emphasis on independent research and student mentorship.

Awards

- Alexander von Humboldt fellowship 2025
- Teaching excellence award 2022