Dianlun (Jennifer) Luo

jennluo@cs.washington.edu

EDUCATION

University of Washington, *Incoming Ph.D. Student in Computer Science & Engineering* Sep 2025 - Seattle, WA
Columbia College, Columbia University, *BA in Mathematics, Computer Science* Sep 2022 - May 2025 New York, NY
College of William and Mary, *Transferred out* Sep 2021 - Jun 2022 Williamsburg, VA

Numerical Analysis, PDE, Physics Simulations, Graphics, AI, ML, Comp Systems, Adv Programming, Adv Algorithms, CS Theory, Real Analysis, Abstract Algebra, Number Theory & Crypto, Discrete Math, Data Structures, Econometrics.

TECHNICAL SKILLS

Python (PyTorch, NumPy, Gpytoolbox, etc), MATLAB, Java, C/C++, Git, FreeFem++, COMSOL Multiphysics, Stata, Tableau, SQL, Blender, Microsoft Office, R, LaTeX.

PUBLICATIONS

[1] Yiming Chen, **Dianlun Luo**, Wenlong Pei, Yulong Xing. Efficient Variable Time-stepping Adaptive DLN Algorithms for the Allen-Cahn Equation. J Sci Comput 104, 67 (2025). https://doi.org/10.1007/s10915-025-02980-4

[2] Mehmet Celik, Mathis Duguin, Jia Guo, **Dianlun Luo**, Kamryn Spinelli, Yunus E. Zeytuncu, Zhuoyu Zhu, Exploring a Geometric Conjecture, Some Properties of Blaschke Products, and the Geometry of Curves Formed by Them. *Comput. Methods Funct. Theory* (2025). https://doi.org/10.1007/s40315-025-00579-2

[3] Qilong Cheng, Chao Tang, **Dianlun Luo**, Minjoon Park, Steven Tian, Yuan Yang, "A Dynamic Wall Design with Tunable Angular Emissivity for All-season Thermal Regulation", *Cell Reports Physical Science* 5, no. 5 (May 1, 2024): 101934–34. https://doi.org/10.1016/j.xcrp.2024.101934

PRESENTATIONS/POSTERS

2025 Joint Mathematics Meetings Seattle, WA
Applied and Numerical Aspects of Nonlocal Initial Value Problems January 8, 2025
Applied and Numerical Aspects of Nonlocal Initial Value Problems January 10, 2025

Polymath Jr. Final Conference Aug 2024 Virtual
Nonlocal Initial Value Problems - Theoretical, Modeling, and Numerical Aspects. August 14, 2024

Undergraduate Summer School on Modeling and Simulation with Partial Differential Equations, Texas A&M University College Station, TX
Hyperbolic Nonlinear Elasticity. An Investigation. May 31, 2024

MATH UN3951 Undergraduate Seminars I (Toric Varieties), Columbia University New York, NY
Toric resolution of singularities. October 25, 2023
Reflexive polytopes and Fano toric varieties. November 19, 2023

2023 Young Mathematicians Conference, The Ohio State University Columbus, OH
Study of Variable Step Method of Dahlquist, Liniger, and Nevanlinna for the Allen-Cahn Model. August 15, 2023
2023 Summer Research Symposium, The Ohio State University Columbus, OH
Study of Variable Step Method of Dahlquist, Liniger, and Nevanlinna for the Allen-Cahn Model. July 27, 2023

2023 Joint Mathematics Meetings Boston, MA
Finding Ellipses: Blaschke products and their connection with Poncelet's theorem. January 7, 2023

Directed Reading Program, Columbia University New York, NY
Introduction to Elliptic Curves and Mordell's Theorem. December 15, 2022

INTERNSHIP EXPERIENCE

Applied Scientist Intern, **System Technology & Engineering, ByteDance Inc.** Jun 2025 - Sep 2025 San Jose, CA

Research Intern, **Chinese Development Finance Program, AidData** Feb 2022 - Jun 2022 Williamsburg, VA

RESEARCH EXPERIENCE

Geometry Processing Research, **MIT Summer Geometry Initiative 2024 Fellow** Jul 2024 - Sep 2024 Virtual

Project 1: Poisson Surface Reconstruction

Mentored by Oded Stein and Silvia Sellán

Project 2: Geometry-aware Facial Expression and Head Synthesis

Mentored by Dena Bazazian

Project 3: TetSphere Splatting: Representing High-Quality Geometry with Lagrangian Volumetric Meshes

Mentored by Minghao Guo

*Nonlocal Models Research***, 2024 Polymath Jr. REU** Jun 2024 - Aug 2025 (continued till Jan 2025) Virtual

Mentored by Prof. Petronela Radu, Prof. Mikil Foss

*Numerical PDE Research***, ROMUS Program, the Ohio State University**

Mentored by Prof. Yulong Xing Jun 2023 - Aug 2023 (continued till May 2025) Columbus, OH

*Summer School in Modeling and Simulation with PDE***, Texas A&M University** May 2024 College Station, TX

Blaschke products and Poncelet's theorem Research, **2022 Polymath Jr. REU**

Mentored by Prof. Yunus Zeytuncu, Prof. Mehmet Celik Jun 2022 - Aug 2022 (continued till Jun 2023) Virtual

*Thermal Management Research***, Yang Lab, Columbia University** Jan 2023 - May 2023 New York, NY

Mentored by Prof. Yuan Yang, Dr. Qilong Cheng

TEACHING EXPERIENCE

*Undergraduate Teaching Assistant***, Columbia University** Sep 2023 - May 2025 New York, NY

- Spring 2025: MATH UN3020 Number Theory and Cryptography
- Fall 2024: MATH GU4042 Intro to Modern Algebra II
- Fall 2023, Spring 2024: MATH UN2030 Ordinary Differential Equations

Coach, **Tencent MiniE Innocamp - Product Entrepreneurship, Tencent** Aug, 2022 Shenzhen, China