L. Minah Yang

PROFILE

Postdoctoral researcher at the Courant Institute active in research experience in scientific machine learning, numerical analysis and algorithms, with a focus on methods for processing and extracting information from large, high-dimensional datasets in geophysical fluid dynamics and graph matrices.

EXPERIENCE

POSTDOCTORAL ASSOCIATE, COURANT INSTITUTE AT NYU — NEW YORK, NY – 2021-PRESENT

- **Data rebalancing for learning from long-tail distributions:** Develop data rebalancing methodology to treat data imbalance, with a case study on learning from gravity wave (subgrid-scale) parameterizations for use in general circulation (climate) models.

GRADUATE RESEARCH ASSISTANT, CU BOULDER — BOULDER, CO – 2016-2021

- **Generative modeling for data assimilation:** Develop use of generative modeling for ensemble-based data assimilation methods.
- **Numerical methods for wave turbulence:** Develop, test, and analyze implicit/explicit and exponential integrators for wave-turbulence and doubly-diffusive turbulent type problems.

SUMMER INTERN, LAWRENCE LIVERMORE NAT'L LABORATORY — LIVERMORE, CA – 2018-2020

- **Mixed-Precision Algorithms:** Derive numerical error bounds and develop QR factorization algorithms utilizing mixed-precision arithmetic, with applications in graph clustering.

TEACHING ASSISTANT, CU BOULDER — BOULDER, CO – 2016–2018

Grade and assist in teaching undergraduate and graduate-level courses: Calculus sequence, Linear Algebra, Differential Equations, Asymptotics.

GRADUATE ASSOCIATE, AMHERST COLLEGE — AMHERST, MA – 2015-2016

Teach music theory, musicianship, and ear training courses.

TUTOR/ TEACHING ASSISTANT, AMHERST COLLEGE — AMHERST, MA – 2012-2015

Tutor and grade homework for introductory physics courses for majors and calculus courses.

EDUCATION

UNIVERSITY OF COLORADO – BOULDER, CO — APPLIED MATHEMATICS MS, 2018 & PHD, 2021

- Coursework: Machine Learning, Spatial Statistics, Data Assimilation, Geophysical Fluid Dynamics, Mathematical Statistics, Asymptotics, Dynamical Systems, PDEs, Multigrid Methods, Numerical Analysis, Functional Analysis

AMHERST COLLEGE – AMHERST, MA — MATHEMATICS BA & MUSIC BA, 2015

- Double senior honors theses (Mathematics and Music)

SKILLS

- High performance computing, scientific computing (Python, Julia, Bash, Git, Matlab, Fortran), data analysis, machine learning (Torch), data visualization (Python/Adobe suite), written and verbal communication

AWARDS & SCHOLARSHIPS

Rising Stars in Computational and Data Sciences, MIT Graph Challenge 2020 Honorable Mention, NSF Mathematical Sciences Graduate Internship, SIAM Science Policy Fellow, SIAM Financial Mathematics Student Programming Challenge 4th Place, Academic fellowships from CU Boulder and Amherst College, Best poster award at LLNL and graduate program.

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