Jules Berman

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Summary

Third-year PhD candidate building fast generative models for video and PDE-based physics simulation. First author on **4 NeurIPS/ICML papers** and **Harold Grad Prize winner** (top PhD '24). My work spans:

- **scalable one-step video generation**—SOTA one-step for video, synthesizing 480p clips in real time
- **neural surrogates that accelerate physics simulation** by >100× while preserving physical fidelity

Education

Ph.D., Computer Science — New York University, Courant Institute. GPA 3.9.   Expected 2026
    Awards: Harold Grad Memorial Prize (top PhD student, 2024) · MacCracken Fellowship (full award)
    Advisor: Benjamin Peherstorfer
B.S., Computer Science — New York University.   May 2017
    Awards: cum laude

Select Publications

Stochastic Lifting for One-Step Per-Frame Video Generation and Physics Simulation   ***in review*** ▪ **NeurIPS 2025**
    [arxiv] **J. Berman**, T. Blickhan, B. Peherstorfer.

Parametric model reduction of [...] stochastic systems via higher-order action matching   **NeurIPS 2024**
    [arxiv] **J. Berman**, T. Blickhan, B. Peherstorfer.

CoLoRA: Continuous low-rank adaptation for reduced neural modeling [...]   **ICML 2024**
    [arxiv] **J. Berman**, B. Peherstorfer.

Randomized Sparse Neural Galerkin Schemes with Deep Networks   ***spotlight*** ▪ **NeurIPS 2023**
    [arxiv] **J. Berman**, B. Peherstorfer.

Experience

Google   May 2025 – Aug 2025
Research Engineer Intern (Current)
    Researched representation learning via autoregressive masked transformers on time series and sensor data.

Meta   May 2024 – Aug 2024
Research Scientist Intern, CTRL-Labs
    Designed and trained diffusion-based generative models of EMG data, improving downstream gesture classification accuracy by 10% through synthetic data augmentation.

Flatiron Institute   May 2021 – Aug 2022
Research Analyst, Center for Computational Neuroscience
    Architected a distributed training platform for large-scale experiments (100k+ VAEs) and developed novel representational metrics enabling in-depth comparative analyses.

Bloomberg LP   April 2018 – April 2021
Senior Software Engineer, Global Infrastructure Team
    Led full-stack build of infrastructure procurement portal used by 2000+ engineers weekly; deployed ML-based predictive systems to forecast future infrastructure demands from historical usage data.

Skills

Software: Python · JAX · PyTorch · Flax · NumPy · SLURM · Git · LaTeX
Service: Reviewer at NeurIPS, ICLR, ICML; Mentor for MS student;