Julian Gold

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github https://the-ninth-wave.github.io/

Education

Ph.D. in Mathematics, *University of California, Los Angeles* 2012 – 2017
specialization: random networks, statistical mechanics. advisor: Marek Biskup

B.S. (highest honors) **in Mathematics**, *University of California, Davis* 2007 – 2012

Work experience

Northwestern University, Dept. of Mathematics 2017 – 2021

RTG (Research Training Grant) postdoctoral fellow from September 2017 through August 2018, working under Antonio Auffinger, my sponsoring scientist for an NSF postdoctoral fellowship from September 2018 through August 2021. Effective job titles:

researcher Leveraged analytic skills, studying models with applications ranging in biology, physics, and computer science. Lead to the joint work with A. Auffinger listed below. Gave some invited talks and attended conferences related to work.

organizer As a co-organizer of the Northwestern Probability Seminar, invited and hosted visiting mathematicians giving talks on their work.

instructor Classes taught at Northwestern include one at the graduate level, and an introductory math course taught through NPEP.

UCLA, Department of Mathematics 2013 – 2017

researcher Developed my analytic skills, attended a quarter-long research program. Resulted in main component of PhD thesis *"Isoperimetry in..."*, listed below, and one other solo work. Began collaboration with Cortines and Louidor, resulted in paper listed below.

teaching assistant Courses included calculus, linear algebra, and probability.

Projects

computer vision project Developed a training pipeline using the Faster R-CNN architecture on a scientific document dataset, labeled by hand. Project details can be found at this webpage.

Skills

programming Python, TensorFlow, PyTorch, OpenCV, PIL, Colab, SQL

language English (native), French (basic), Mandarin (basic)

Selected publications and preprints

(traditionally, author ordering in Math papers is alphabetical, in contrast to other academic fields where papers have a designated first author) More detail on the list below is here.

The number of saddles of the spherical p-spin model (preprint), with A. Auffinger

Dynamical freezing in a spin glass system with logarithmic correlations (link), with A. Cortines and O. Louidor

Isoperimetry in supercritical bond percolation in dimensions three and higher (link)