Curriculum Vitae

David Yang

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Research interests: algebraic geometry, representation theory

Education and Career

- C.L.E. Moore instructor, Massachusetts Institute of Technology, 2022-present
- PhD student, Harvard University, 2018-2022
- Undergraduate, Massachusetts Institute of Technology, 2013-2018

Papers

14. A filtration on the moduli stack of local systems on the punctured disc, in progress
13. Refined categorical Moy-Prasad theory, with Gurbir Dhillon and Yakov Varshavsky, in progress, expected to be finished by end of Oct 2026
12. On Moy-Prasad quotients over Laurent series fields, preprint, arxiv.org/abs/2603.12623
11. Subvarieties of low degree on general hypersurfaces, with Nathan Chen, to appear in *J. Reine Angew. Math.*
10. Representations of loop groups as factorization module categories, with Lin Chen, Yuchen Fu, and Dennis Gaitsgory, submitted for publication
9. Affine Beilinson-Bernstein localization at the critical level, with Sam Raskin, *Ann. of Math.* (2) 200 (2024), no. 2, 487–527.
8. Categorical Moy-Prasad theory, submitted for publication, arxiv.org/abs/2104.12917
7. Modular representations in type A with a two-row nilpotent central character, with Galyna Dobrovolska and Vinoth Nandakumar, *J. Algebra* 643 (2024), 311–339.
6. Applications of a Grassmannian technique to hyperbolicity, Chow equivalency, and Seshadri constants, with Eric Riedl, *J. Algebraic Geom.* 31 (2022), no. 1, 1–12.
5. Rational curves on general type hypersurfaces, with Eric Riedl, *J. Differential Geom.* 116 (2020), no. 2, 393–403.

4. Kontsevich spaces of rational curves on Fano hypersurfaces, with Eric Riedl, *J. Reine Angew. Math.* 748 (2019), 207–225.

3. Interpolation for normal bundles of general curves, with Atanas Atanasov and Eric Larson, *Mem. Amer. Math. Soc.* 257 (2019), no. 1234, v+105 pp.

2. A vanishing theorem for weight-one syzygies, with Lawrence Ein and Robert Lazarsfeld, *Algebra Number Theory* 10 (2016), no. 9, 1965–1981.

1. S_n-equivariant sheaves and Koszul cohomology, *Res. Math. Sci.* 1 (2014), Art. 10, 6 pp.

Awards

- Frank and Bennie Morgan Prize for Outstanding Research in Mathe- matics by an Undergraduate Student, 2017
- William Lowell Putnam Mathematics Competition Fellow, 2014, 2015, 2016
- International Mathematics Olympiad, Gold Medal, 2011, 2012