

Evelyn Kaul

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Education

- PhD in Applied Mathematics, Massachusetts Institute of Technology - Thesis: Persistent Homology in High-Dimensional Dynamical Systems
- BS in Mathematics, University of Cambridge

Experience

- Senior Research Scientist, Google Brain (2016-2023)
- Developed optimization algorithms for deep neural architectures using topological priors
- Led a cross-functional team integrating algebraic geometry into sparse tensor methods
- Published in Journal of Machine Learning Research, SIAM Journal on Applied Mathematics
- Visiting Scholar, École Normale Supérieure (2019)
- Collaborated on category-theoretic frameworks for explainable AI

Projects

- GitHub: <https://github.com/ekaul-opt>
- TopoTorch: Library integrating persistent homology with PyTorch layers
- Stochastic Variational Flows: Advanced implementation of manifold-based optimizers
- Over 2k stars, contributions from 18 countries

Strengths

- Deep theoretical fluency and exceptional applied skills
- Known for elegant, well-documented, mathematically sound code
- Strong mentorship and peer review history in academic and industry settings