

Undergraduate Mathematics Colloquium

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Algebraic geometry in computer vision

Friday November 9

Talk at 4:00 in Herman Brown 227

Tea and cookies at 3:30 in Herman Brown 438

ABSTRACT: Computer vision is a key component of modern life. It is used in domains ranging from smartphone panorama photos, to facial recognition, to 3D reconstruction of houses and trees from aerial photos, to medical imaging and diagnosis. The underlying mathematical problems go back to the mid-19th Century, but it takes cutting-edge mathematics to make the computations fast enough to be practical at scale. After I explain a few of the basic mathematical problems and constructions, I will discuss some of the fascinating geometry behind one key algorithm.

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