Algebra and Number Theory Colloquium

Moduli spaces in computer vision

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Abstract: Moduli theory is one of the cornerstones of algebraic geometry. The underlying idea of the theory is that, given a class of mathematical objects, one can often find a universal space parametrizing those objects, and the geometry of this space gives us insight into the objects being parametrized. After introducing moduli theory with some basic classical examples, I will discuss recent applications to computer vision. As it turns out, the roots of computer vision are tightly intertwined with classical projective geometry. I will present the early history and basic geometric problems of computer vision, and then I will talk about how modern methods give us deeper insight into these problems, including new understandings of core algorithms that are used billions of times a day all over the planet.

Monday, February 10, 2020, 2:30 pm
Mathematics and Science Center: MSC E208

Mathematics
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