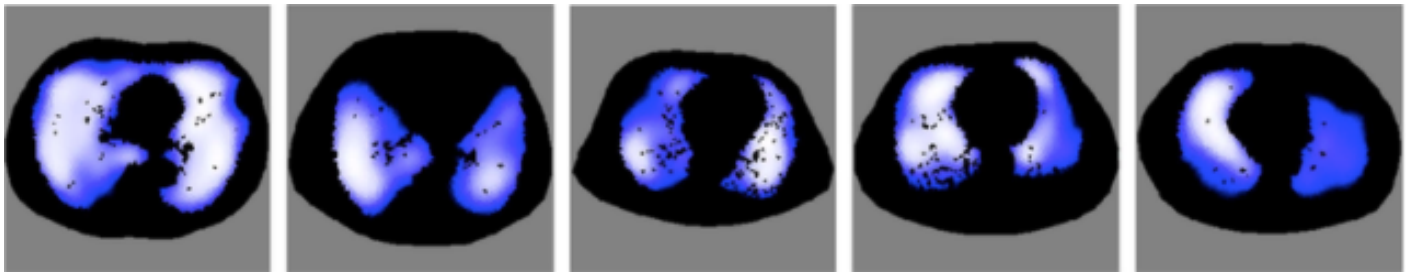


Graduate Mathematics Seminar

Shape Synthesis Using Structure-Aware Reasoning and Medical Applications

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Abstract: Shape synthesis is an important area of computer vision and graphics that concerns creation of new shapes and reconstruction from partial data. Its goal is to learn a model that can generate shapes within an object category suitable for novel shape creation, interpolation, completion, editing, and other geometric modeling applications. Existing tools learn shape properties from large collections of shapes. Although these methods have been very successful at learning how to synthesize the coarse shapes of objects in categories with highly diverse shapes, they have not always produced examples that reconstruct important structural elements of a shape. I describe how structure can be incorporated into the synthesis process, and how it can be used to improve generative models. I also present some medical imaging applications of this approach.

Please see <https://esizikova.github.io> for more info.

When: Monday, April 27, 2020, 6:00 – 7:00 pm

Location: Zoom

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