Algebraic Geometry Learns Machines and Machines Learn Algebraic Geometry

About the talk

In this talk I will overview some existing results and ongoing work at the intersection of algebraic geometry and machine learning. I will present how a piecewise linear and combinatorial variant of algebraic geometry–known as tropical geometry–has been shown to be relevant in defining neural networks and talk about some recent and current work that our group is doing that adapts tropical geometry theory in numerical studies towards a better understanding of neural network behavior during training. While algebraic geometry holds much potential for better understanding machine learning, it turns out that machine learning is also a powerful tool that can help develop algebraic geometry theory. I will also overview some recent and ongoing work by researchers in my group where we use neural networks for theorem discovery in algebraic geometry.

Speaker

Anthea Monod
Imperial College London

Scan QR code for Zoom link

Date and time

28 May 2025, 4 pm
Singapore (GMT +8)
UK (GMT +1)

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NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE