Linearity in the tropics
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Tropical geometry studies an algebraic variety \( X \) by ‘tropicalizing’ it into a polyhedral complex \( \text{Trop}(X) \) which retains much of the information about \( X \). This technique has been applied successfully in numerous contexts in pure and applied mathematics.

Tropical varieties may be simpler than algebraic varieties, but they are by no means well understood. In fact, tropical linear spaces already feature a surprisingly rich and beautiful combinatorial structure, and interesting connections to geometry, topology, and phylogenetics. I will discuss what we currently know about them.