Project title: Metric graphs

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General area: Mathematics

Description:
A metric graph is just a graph with a positive weight assigned to each edge; one can define the length of any cycle on a metric graph to simply be the sum of the weights of all edges traversed by the cycle (counting multiplicity). The entropy of a metric graph quantifies the growth rate of the number of cycles under a given length. In this project, we're interested in finding subgraphs of a given metric graph that have a definite proportion of the entropy of the full graph. The question we'll explore has important connections to moduli spaces of graphs.

Requirements: Basic analysis and linear algebra.

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