Combinatorial structures for distributed computing models

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The main complication in the analysis of distributed systems is the immense diversity of distributed computing models, combined with the lack of mathematical tools to handle this complexity.

In this mini-course, we begin with a gentle introduction into the basics of distributed computing and then discuss how to characterize the computability power of a large class of models via properties of the corresponding simplicial complexes, combinatorial structures capturing representative sets of model executions.