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Structure-oriented prediction in complex networks

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Abstract

Complex systems are extremely hard to predict due to its highly nonlinear interactions and rich emergent properties. Thanks to the rapid development of network science, our understanding of the structure of real complex systems and the dynamics on them has been remarkably deepened, which meanwhile largely stimulates the growth of effective prediction approaches on these systems. In this article, we aim to review different network-related prediction problems, summarize and classify relevant prediction methods, analyze their advantages and disadvantages, and point out the forefront as well as critical challenges of the field.

Keywords: Complex networks, Prediction, Network structure, Network dynamics

Contents

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