Algorithmic Problems on Temporal Graphs

Paul G. Spirakis

Department of Computer Science, University of Liverpool, UK
Computer Engineering & Informatics Department, University of Patras, Greece

Abstract

Research on Temporal Graphs has expanded in the last few years. Most of the results till now, address problems related to the notion of Temporal Paths (and Temporal Connectivity). In this talk, we focus, instead, on problems whose main topic is not on Temporal Paths. In particular, we will discuss Temporal Vertex Covers, the notion of Temporal Transitivity, and also issues and models of stochastic temporal graphs. We believe that several algorithmic graph problems, not directly related to paths, can be raised in the temporal domain. This may motivate new research towards lifting more topics of algorithmic graph theory to the temporal case.

2012 ACM Subject Classification Theory of computation → Graph algorithms analysis; Mathematics of computing → Discrete mathematics

Keywords and phrases Temporal graph, stochastic temporal graph, vertex cover, temporal transitivity

Digital Object Identifier 10.4230/LIPIcs.SAND.2022.2

Category Invited Talk