

- ▶ JOSÉ MIGUEL BLANCO, FÉLIX CUADRADO, *Formal modelling of distributed temporal graphs algorithms: the case of Raptory*.
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The rise of temporal graphs has also produced many tools to delve into their analytics and provide real-time support for decision-making. Nevertheless, these tools are based on complex underlying models whose behaviour needs to be ensured so no unexpected side-effects or ill behaviour happens. For that matter formal modelling is an option that has been used extensively, ensuring results like the decidability of the system or enabling the possibility of performing a model check.

Thus, the main aim of this communication is to provide the formal modelling of Raptory, an open-source platform for distributed real-time temporal graph analytics [1]. For that matter we will make use of Routley-Meyer semantics [2] as they are one of the best tools to model distributed systems, and we will extend them by introducing a time-flow with branching time operators. All this will allow us to obtain a perfect representation of Raptory and derive its properties.

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[1] BENJAMIN STEER, FÉLIX CUADRADO, RICHARD CLEGG, *Raptory: Streaming analysis of distributed temporal graphs*, ***Future Generation Computer Systems***, vol. 102 (2020), pp. 453–464.

[2] RICHARD ROUTLEY, ROBERT K. MEYER, ROSS T. BRADY, VALERIE PLUMWOOD, ***Relevant Logics and Their Rivals, vol. 1***, Ridgeview Publishing Company, 1982.