

Márton Elekes, Anna Gujgiczer, Gábor Szárnyas: Learning Timed Automata with Cypher

Fourth openCypher Implementers Meeting:

<https://www.opencypher.org/event/2018/05/22/ocim4/>

In this talk, we present a peculiar use case for Cypher queries: comprehending and prototyping a learning algorithm for timed automata. Originally, we tried to implement the learning algorithm in Java, but soon got stuck: the code was difficult to maintain and we had to develop custom tools to visualise learning process. Out of curiosity, we tried to use a graph database to solve the problem. We stored the automata as a property graph in Neo4j and used Cypher queries to specify the learning algorithm. This choice of tools turned out to be a very good fit for the problem and visualising the automaton graph greatly helped us understanding the algorithm. In this talk, we present the problem and demonstrate how we implemented the learning process in Cypher, including some lessons learnt on the strengths and limitations of this approach.

Az előadás elérhető: <https://s3.amazonaws.com/artifacts.opencypher.org/website/ocim4/ocim4-learning-timed-automata-with-cypher.pdf>