

Machine Learning

- Composition of basic operations:
 - CHASE-inverse schema mapping:

$$\mathcal{M}^* = (\mathcal{M}_1 \circ \dots \circ \mathcal{M}_n)^{-1} = \mathcal{M}_n^* \circ \dots \circ \mathcal{M}_2^* \circ \mathcal{M}_1^*$$

- Type of CHASE-inverse $\mathcal{M}^* : \Leftrightarrow$ Type of the weakest partial inverse \mathcal{M}_i^*
- Machine Learning in databases
 - \Rightarrow Machine Learning algorithms described in SQL¹
 - \Rightarrow SQL-phrases formulated as s-t tgds
 - \Rightarrow Calculation of Machine Learning algorithms with CHASE&BACKCHASE

¹Marten, D.; Heuer, A.: *Machine Learning on Large Databases: Transforming Hidden Markov Models to SQL Statements*. OJDB, Vol. 4, No. 1, pp. 22-42 (2017)