Horn-ICE:
A Learning-Based Program Verifier

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▶ Extension of ICE Learning from implications to Horn clauses
  $(x_1 \wedge \ldots \wedge x_n) \rightarrow y$

▶ Learns invariants in form of decision trees from positive/negative examples as well as Horn clauses

▶ Built on top of the Boogie program verifier, but can also verify Constrained Horn Clauses (as stand-alone tool)

▶ Optimized for synthesizing multiple invariants

Preprint available on arXiv

Horn-ICE Learning for Synthesizing Invariants and Contracts

    https://arxiv.org/abs/1712.09418