

Quantifier Free
Linear Arithmetic

$$y \leq i + 1$$
$$i \leq y$$

Quantifier Free
Arrays

$$b = a[i \triangleleft v]$$
$$a[v] = v$$

Quantifier Free
Uninterpreted Functions

$$f(b) = v$$
$$f(a) \neq v$$

SMTInterpol 

decides **S**atisfiability **M**odulo **T**heory
computes Craig **I**nterpolants

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Quantifier Free
Linear Arithmetic

$$y \leq i + 1$$

$$i \leq y$$

$$y - \text{to_int}(y) < 3$$

mixed int/real

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$$b = a \langle i \triangleleft v \rangle$$

$$a[v] = v$$

$$b[i] \geq i$$

$$f(i + y) = 2v$$

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model

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unsat

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unsat

proof

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unsat core

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unsat

proof

unsat core

interpolants

$$b = a[i \triangleleft v]$$

$$a[v] = v$$

$$f(a) \neq v$$

$$\Rightarrow$$

$$i \neq v$$

$$\vee$$

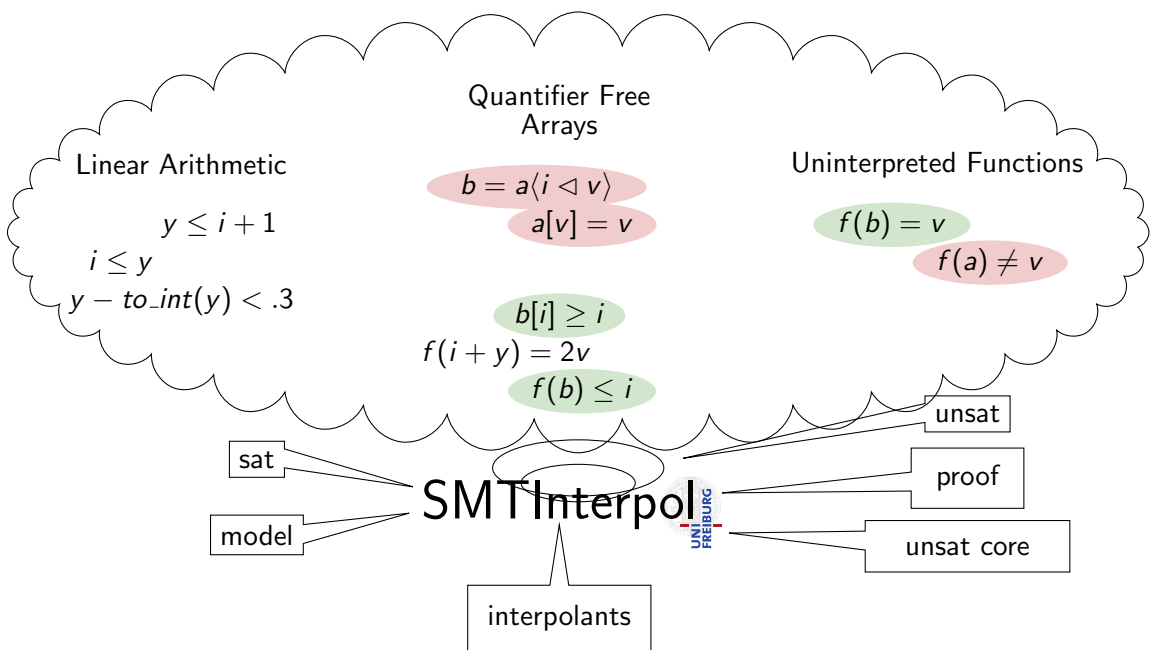
$$f(b) \neq v$$

$$\Rightarrow$$
$$\neg$$

$$f(b) = v$$

$$b[i] \geq i$$

$$f(b) \leq i$$



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