

Saigawa: A Confluence Tool

Nao Hirokawa (JAIST)

Saigawa: A River in Kanazawa



Only 4 Criteria

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THEOREM

Hirokawa and Middeldorp, IWC 2013

left-linear locally commuting TRSs $\mathcal{R}$ and $\mathcal{S}$ commute if

$$\text{SN}(\text{CPS}_{\mathcal{S}}(\mathcal{R}) \cup \text{CPS}_{\mathcal{R}}(\mathcal{S}) / \mathcal{R} \cup \mathcal{S})$$

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if $\text{SNO}(\mathcal{R}, \mathcal{S})$, $\text{CR}(\mathcal{S})$, and $\text{SN}(\mathcal{R}/\mathcal{S})$ then

$$\text{CR}(\mathcal{R} \cup \mathcal{S}) \iff \text{CP}_{\mathcal{S}}(\mathcal{R}) \subseteq \downarrow_{\mathcal{R} \cup \mathcal{S}}.$$

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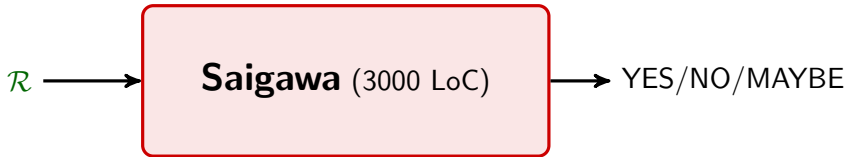
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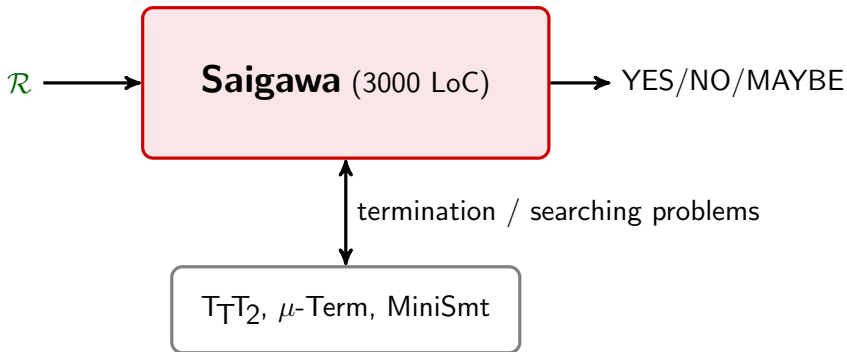
van Oostrom, 2008

$\text{CR}(\mathcal{R})$ if every critical peak is decreasing wrt rule labeling

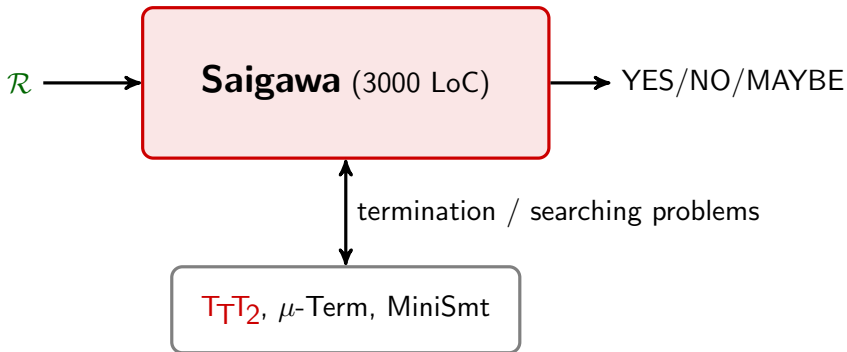
Implementation



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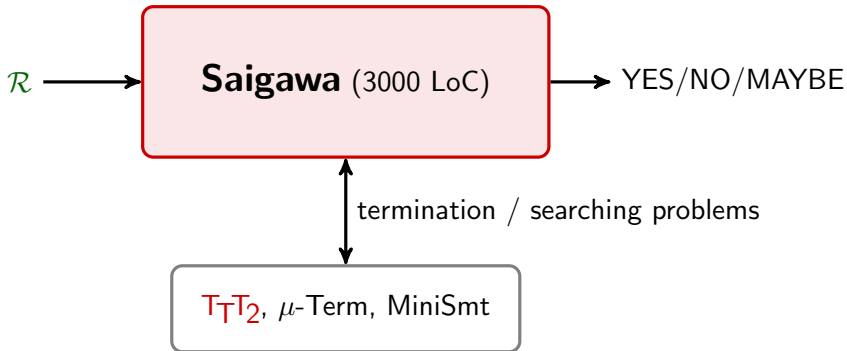
Implementation



FUTURE WORK

- get rid of $\mathsf{T}\mathsf{T}\mathsf{T}_2$

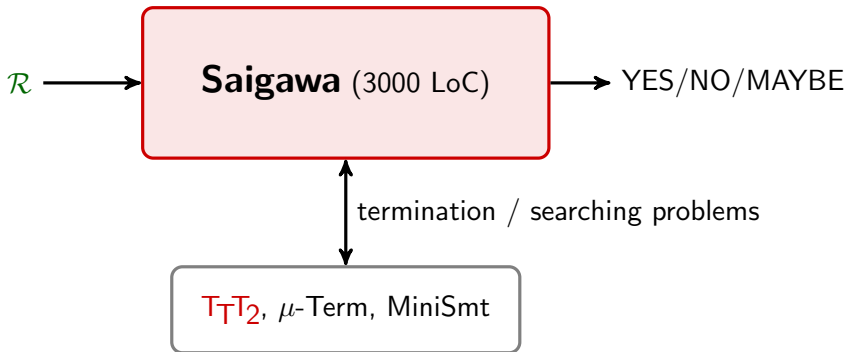
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Implementation



FUTURE WORK

- get rid of $\mathsf{TTT}_2 = \mathsf{CSI}$
- easier installation