

# SUCCINCT-VERIFIER AURORA

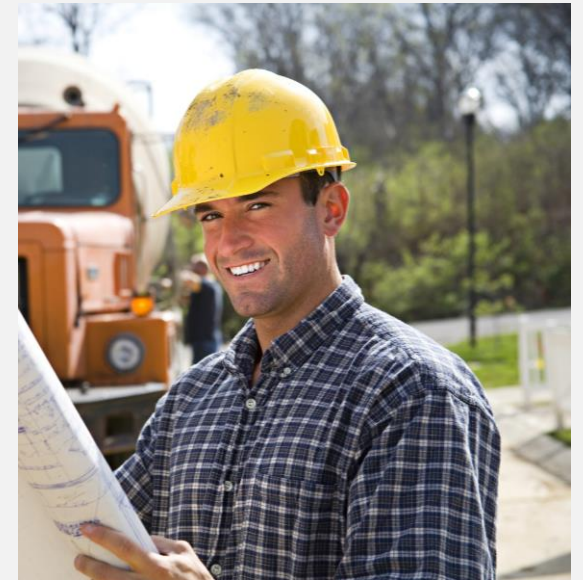
## OR: WHY YOU SHOULD EMBRACE UNIFORMITY

Nick Spooner

from joint work with Eli Ben-Sasson, Alessandro Chiesa,  
Tom Gur and Michael Riabzev

To be presented somewhere, at some point, hopefully

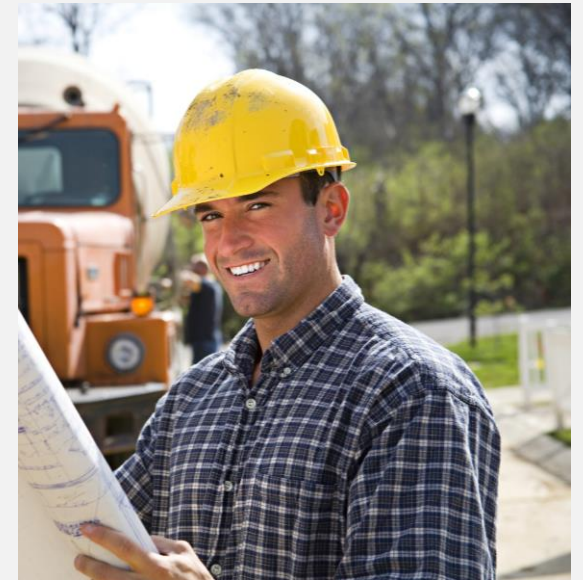
# A REAL, ACTUAL CONVERSATION\* WITH A PRACTITIONER



\*not a real conversation

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We have this cool new zkSNARK!

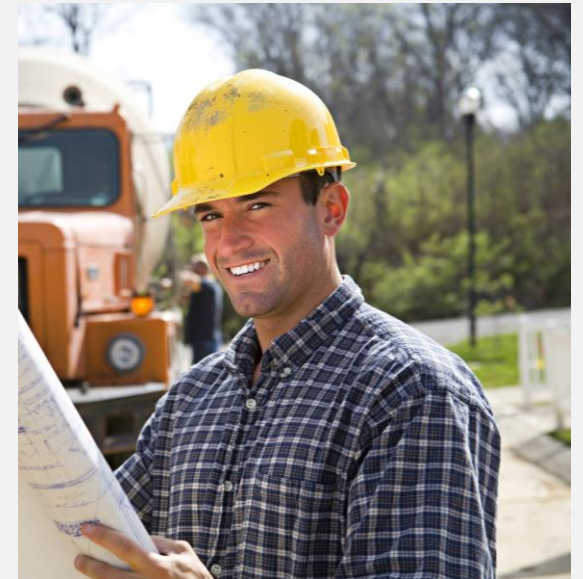


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Nice! How fast is the verifier?



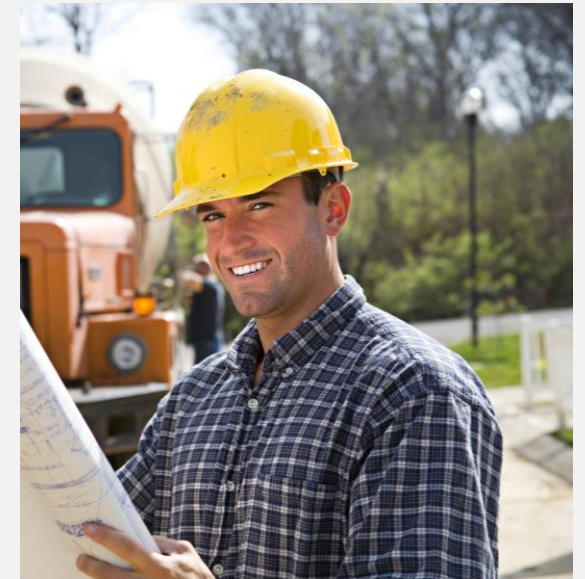
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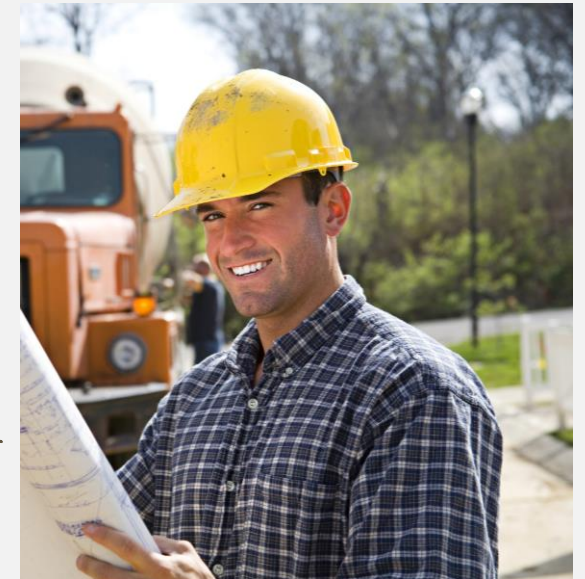
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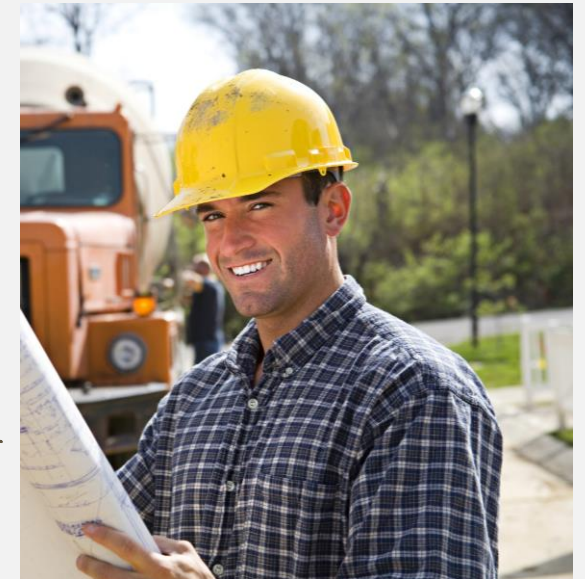
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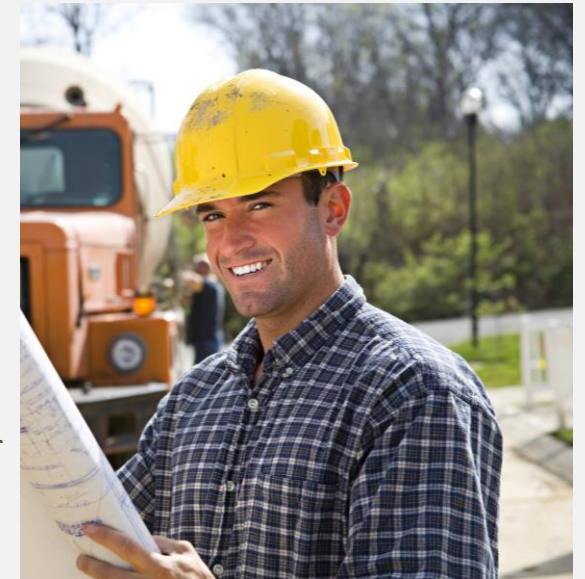
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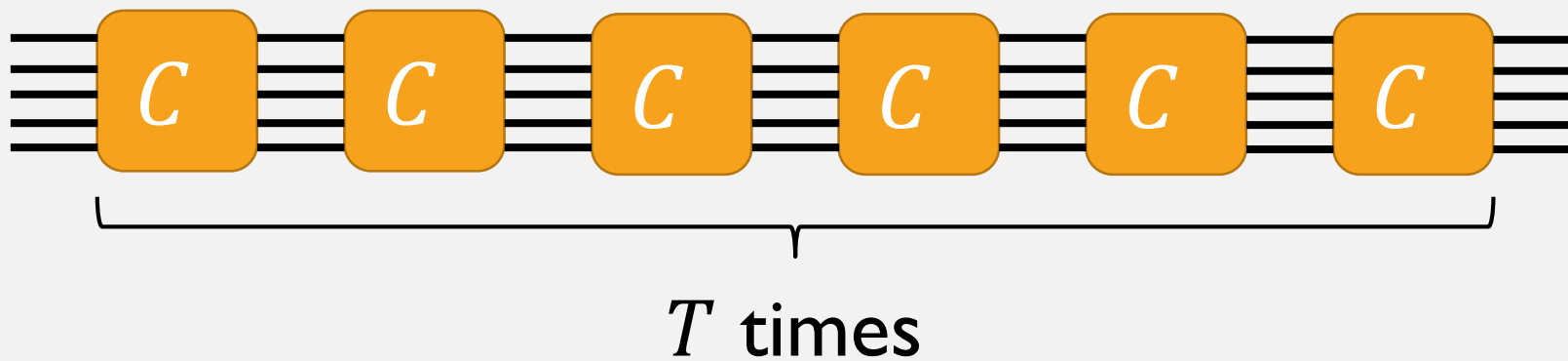
*HUGE.*



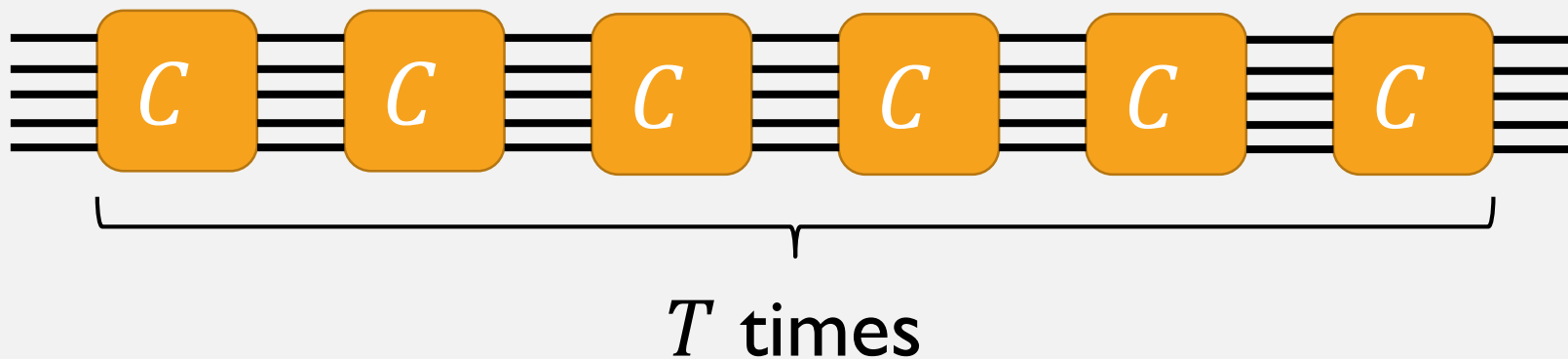
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ARE HIS CIRCUITS REALLY SO HUGE?

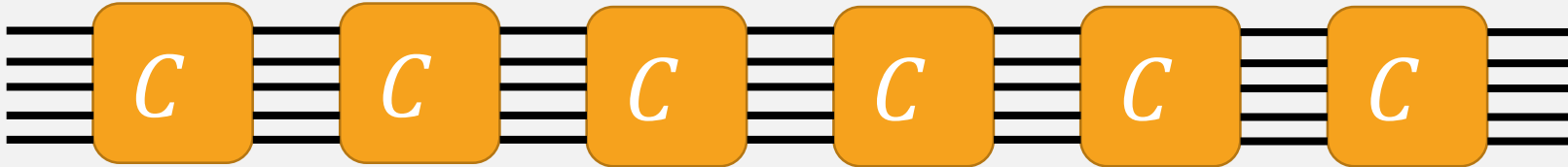


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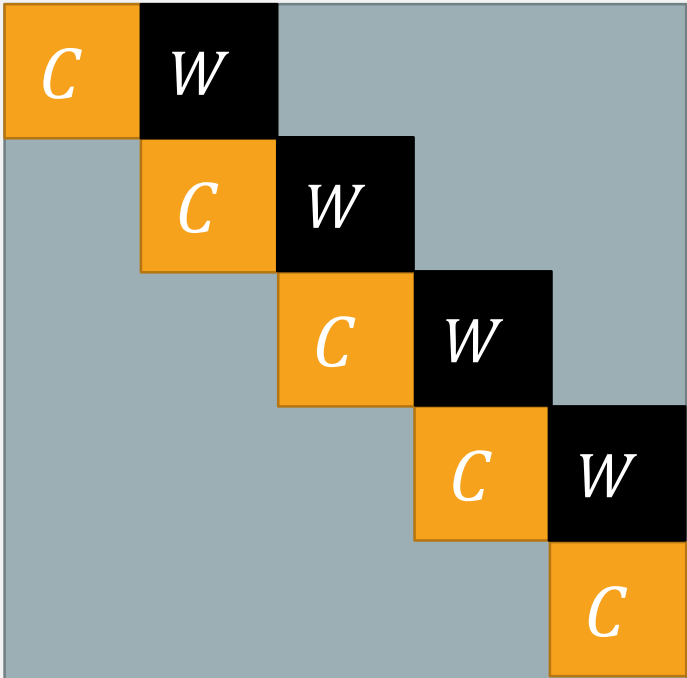
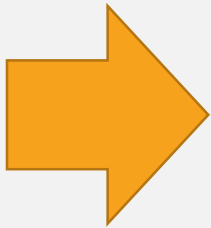
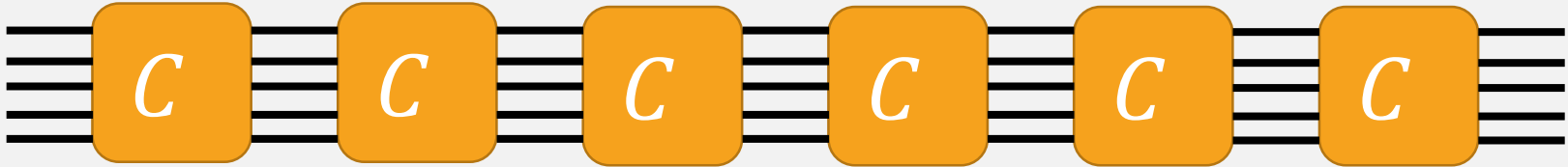


Highly compressible:  $|C| + \log T$

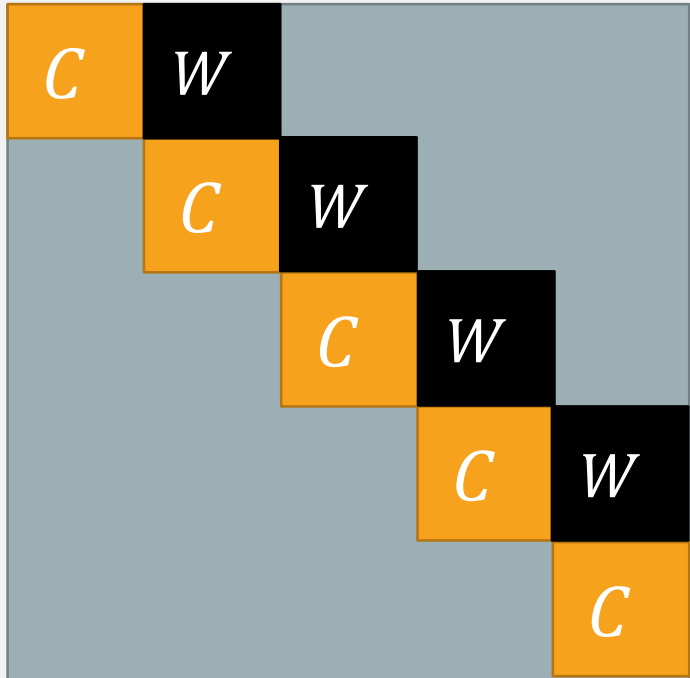
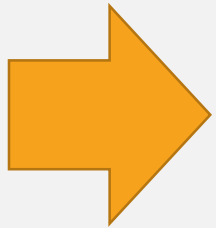
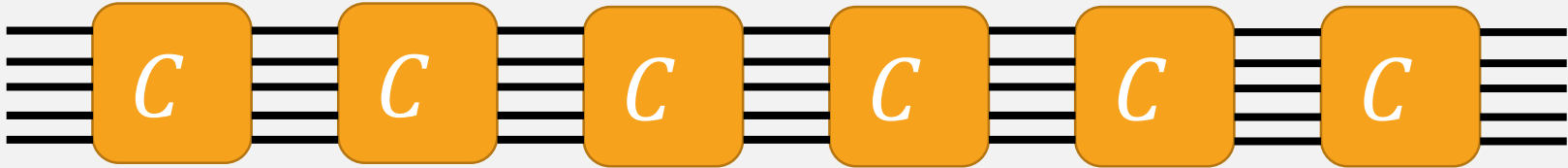
# SUCCINCT RICS



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$$= C \otimes I + W \otimes I \rightarrow$$

## SUCCINCT AURORA

Uses algebraic structure to check repeated circuits (& more)

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Verifier runtime is  $\text{poly}(|C|, \log T)$

