Attack Trees in Resource-Sensitive Logics

Reasoning about Attack Trees:

- Model **Attack Trees** as Formulas in Resource-Sensitive Logics

- Prove Properties about **Attack Trees** by Proving Properties about Formulas

- Respects the Concurrency Perspective of Attack Trees

$A =$ “Modify Street Signs to Cause Wreck“
$B =$ “Pose as Mechanic“
$C =$ “Install Malware“
$D =$ “Find Address of Cars Location“
$E =$ “Break Window“
$F =$ “Disable Door Alarm/Locks“

$$
\begin{aligned}
& (A \rhd (B \odot C)) \sqcup (D \rhd ((E \sqcup F) \rhd C)) \\
\equiv\ & ((A \rhd B) \odot (A \rhd C)) \sqcup ((D \rhd (E \rhd C)) \sqcup (D \rhd (F \rhd C)))
\end{aligned}
$$