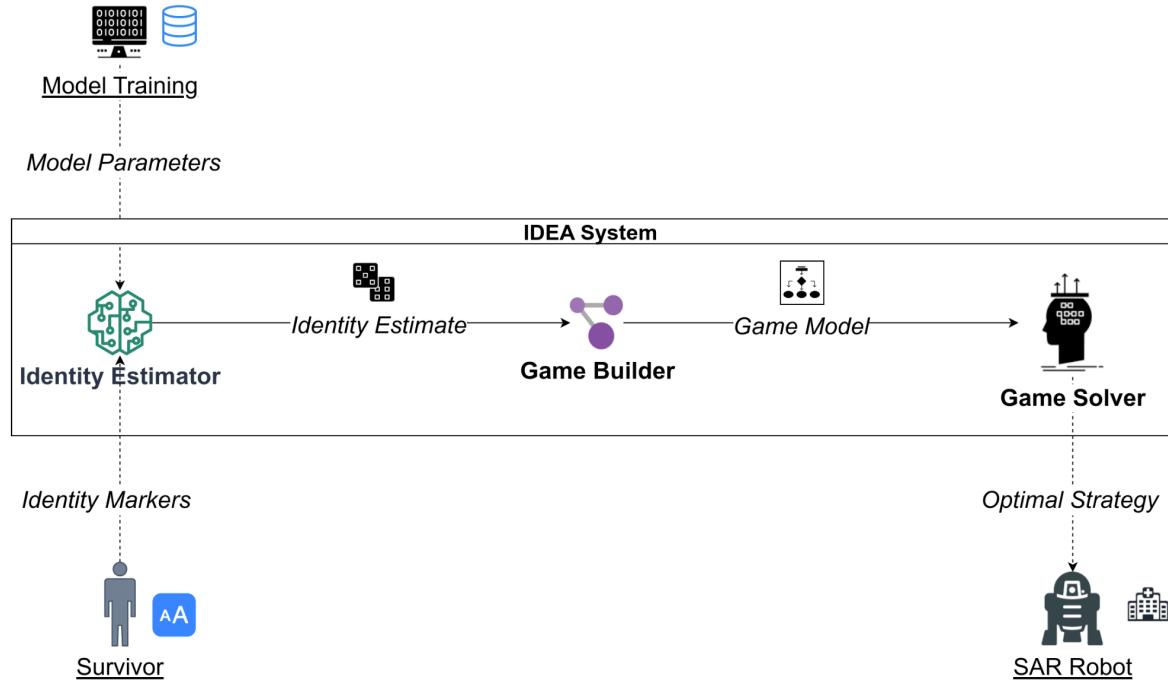




POLITECNICO
MILANO 1863

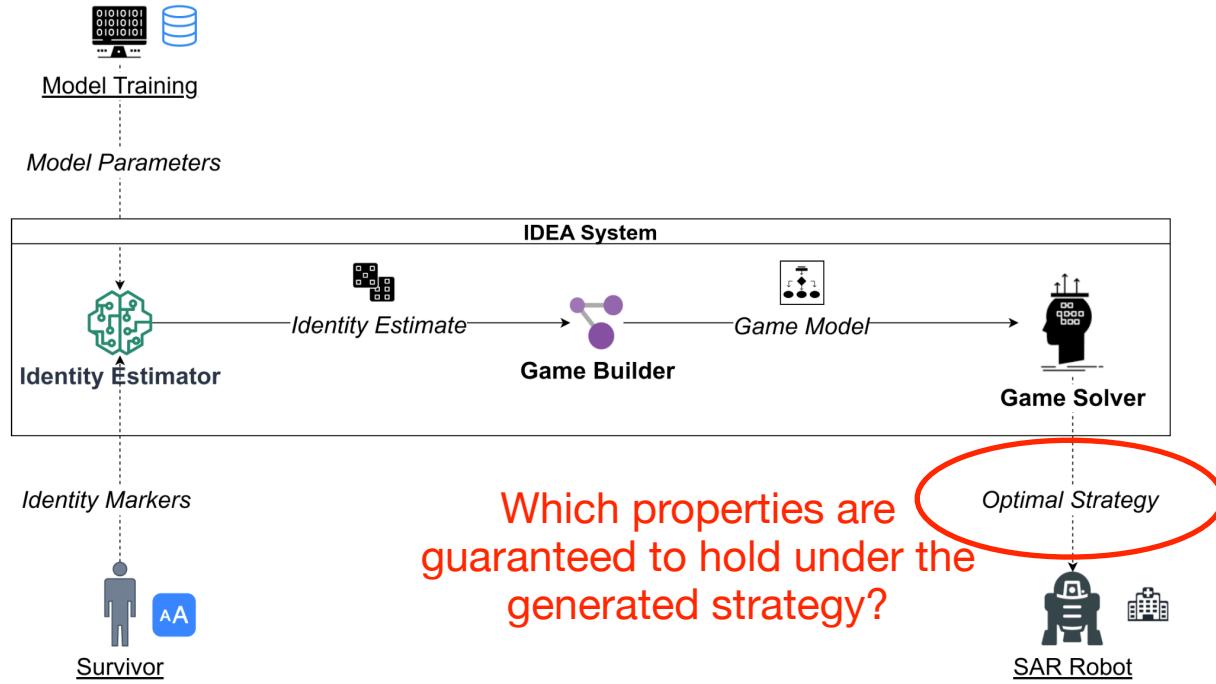
Towards a Formally Verified Identity-Aware Architecture for Autonomous Systems

The IDEA Framework [1]



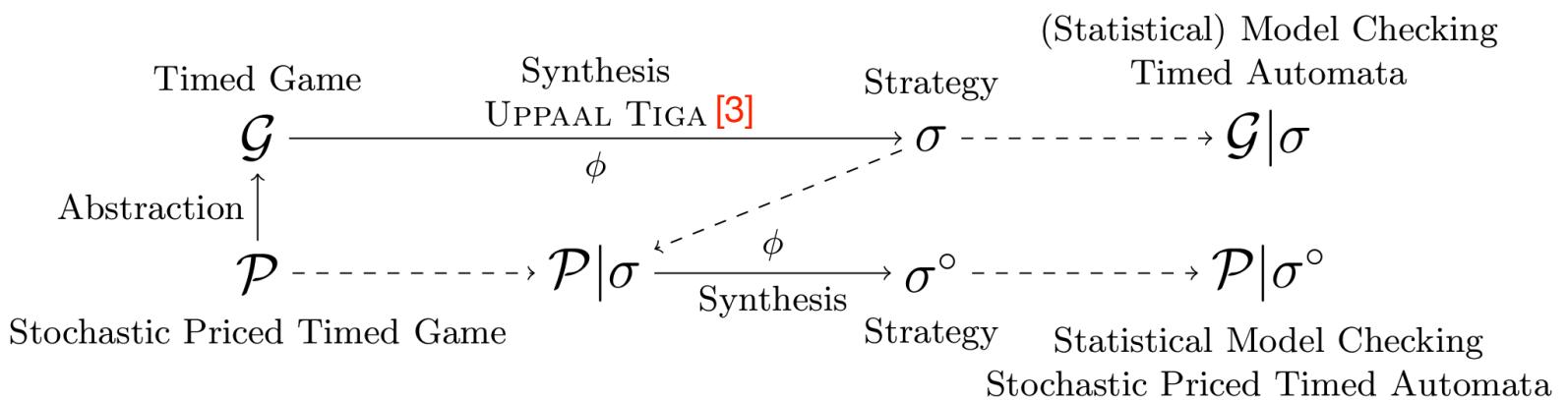
[1] Gavidia-Calderon, C., Kordoni, A., Bennaceur, A., Levine, M., & Nuseibeh, B. The IDEA of Us: An Identity-Aware Architecture for Autonomous Systems. Submitted to TOSEM.

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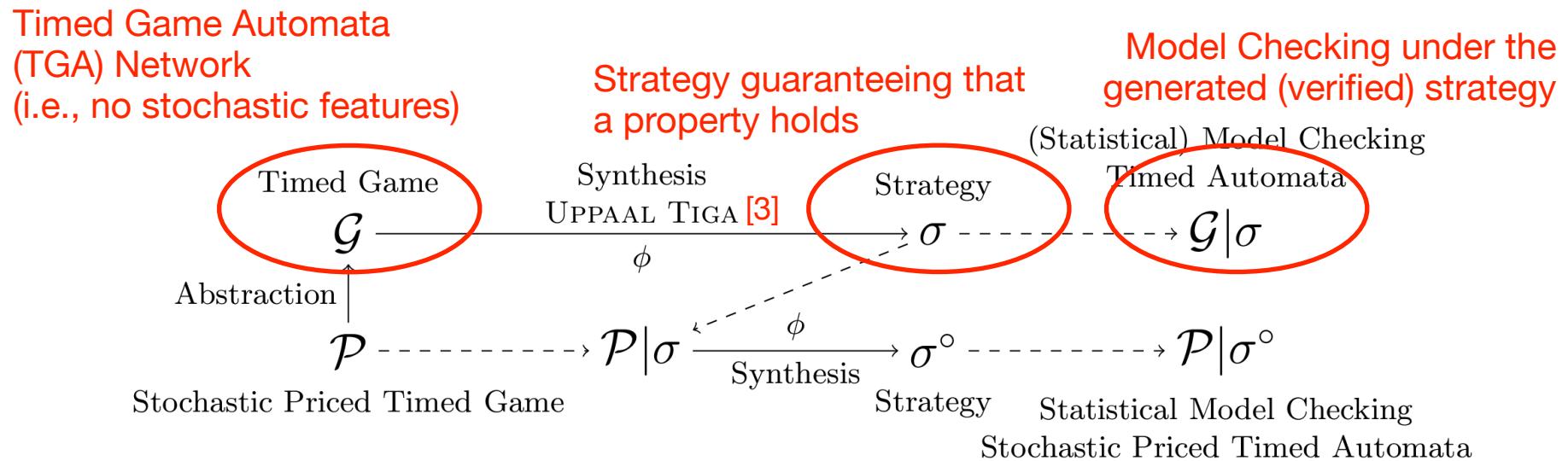
Uppaal Stratego [2]



[2] David, A., Jensen, P. G., Larsen, K. G., Mikučionis, M., & Taankvist, J. H. (2015). Uppaal stratego. In TACAS 2015, Proceedings 21 (pp. 206-211). Springer Berlin Heidelberg.

[3] Behrmann, G., Cougnard, A., David, A., Fleury, E., Larsen, K. G., & Lime, D. (2007). UPPAAL-Tiga: Time for Playing Games! (Tool Paper). In CAV 2007. Proceedings 19 (pp. 121-125). Springer Berlin Heidelberg.

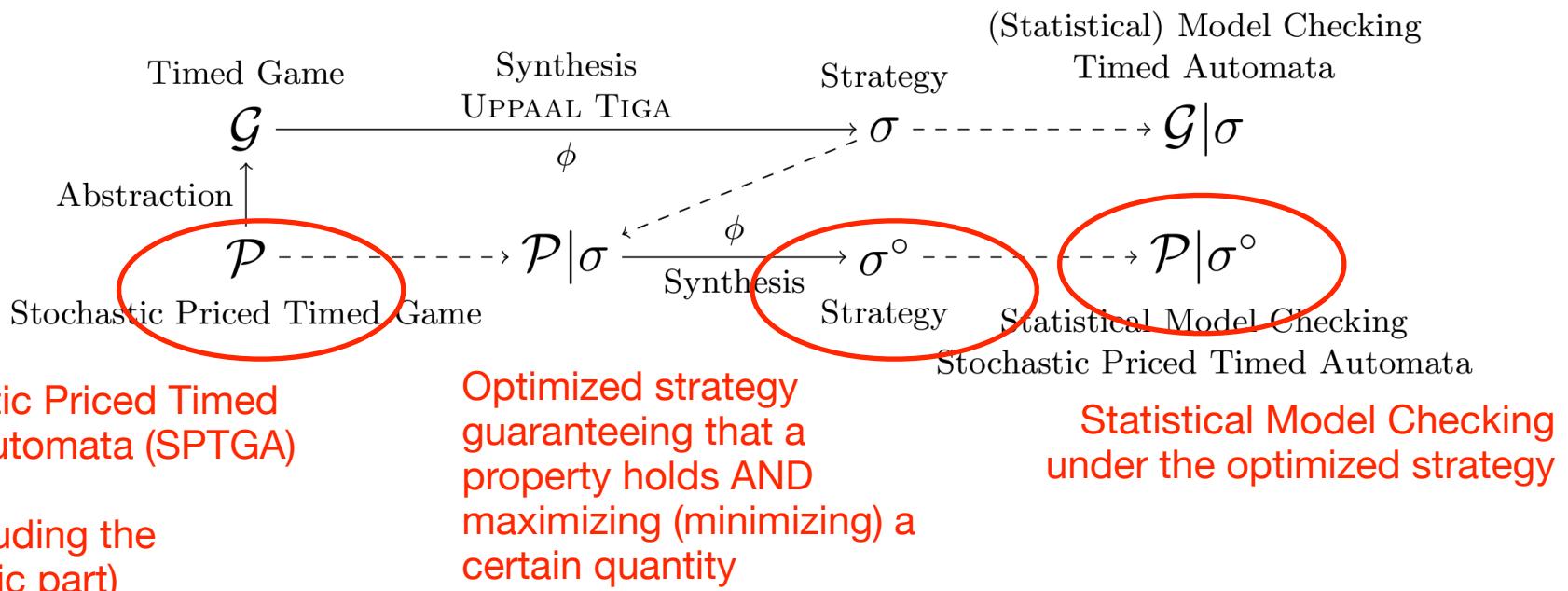
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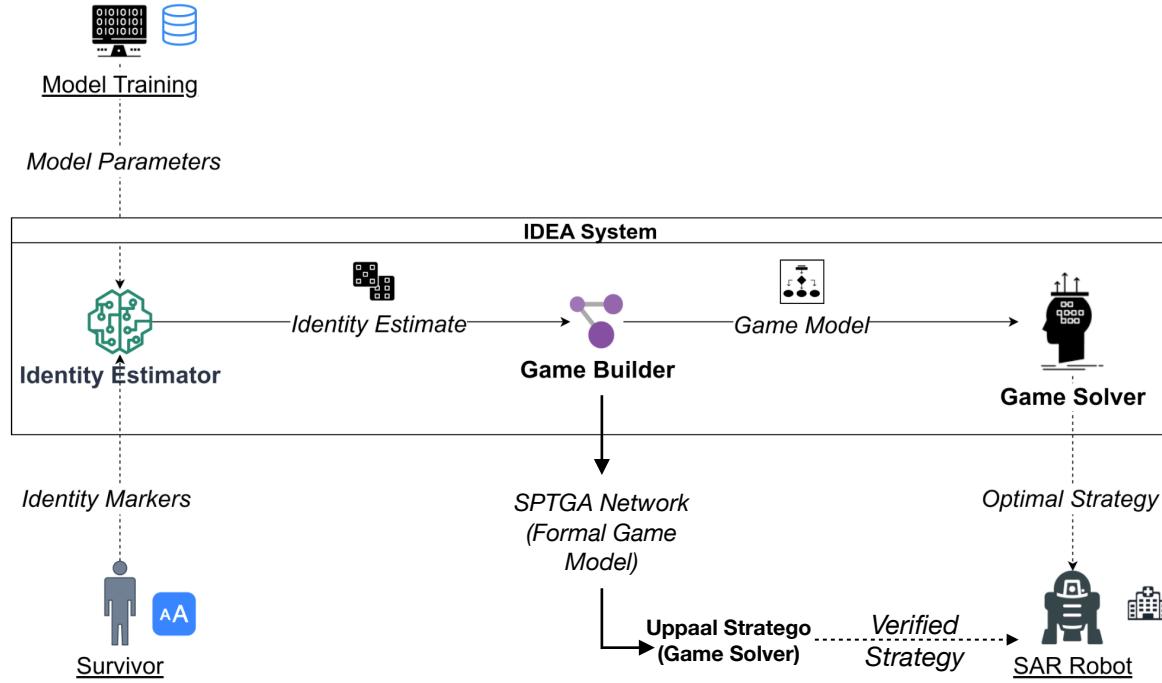
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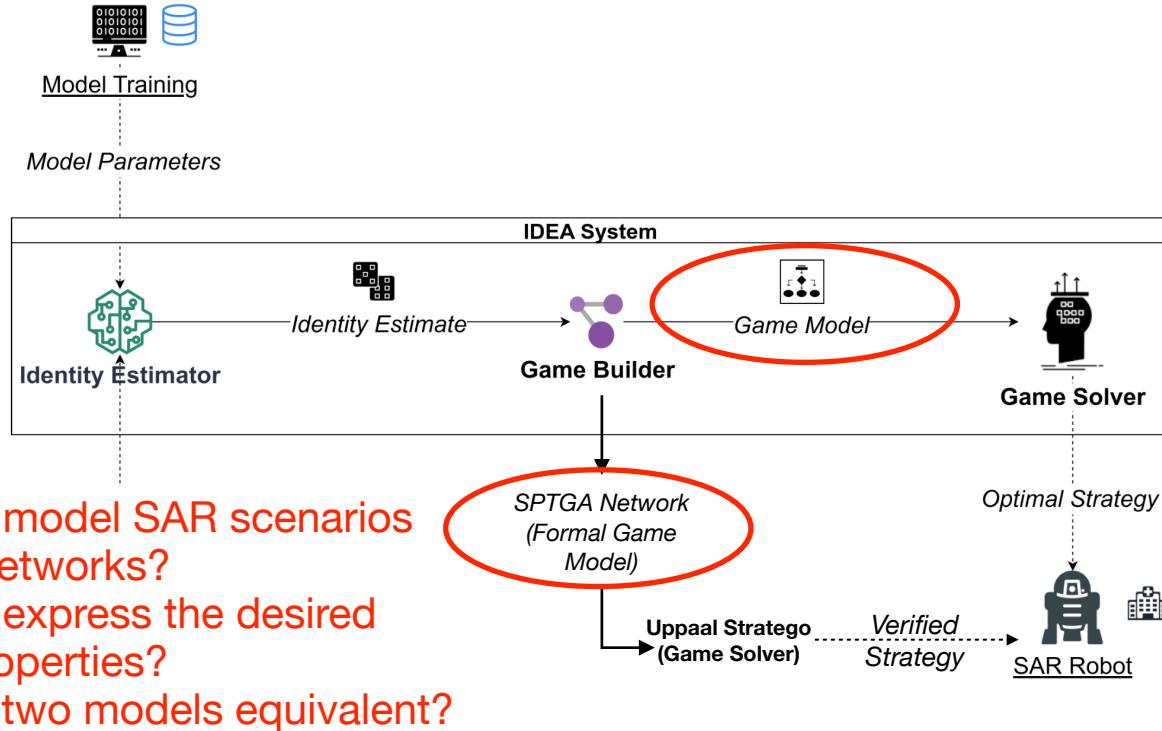
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The IDEA Framework [1] + Formal Verification



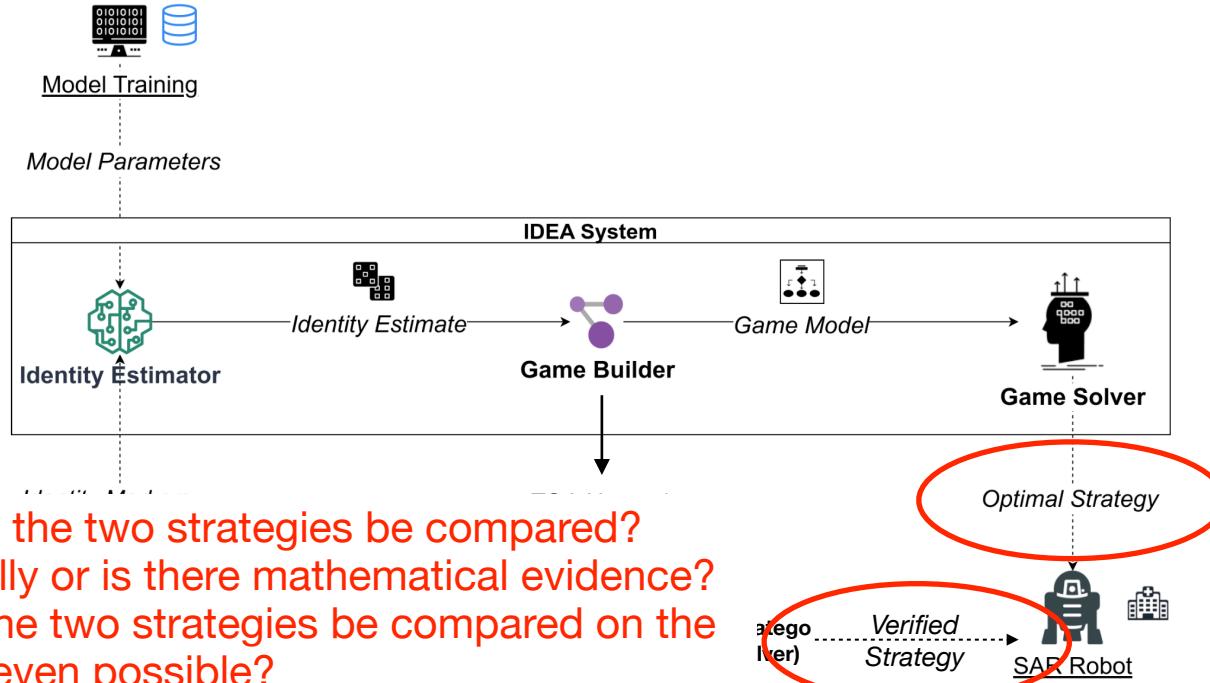
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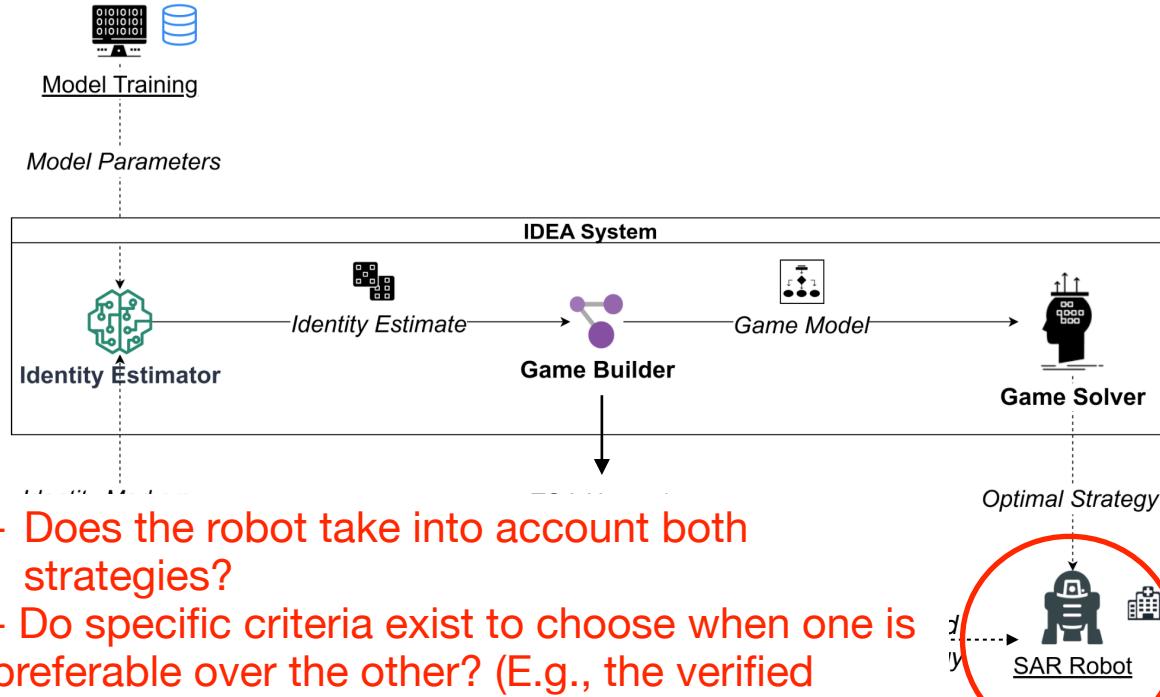
The IDEA Framework [1] + Formal Verification



- How can the two strategies be compared? Empirically or is there mathematical evidence?
- Should the two strategies be compared on the fly? Is it even possible?
- Can the formally verified strategy realistically be computed at runtime?

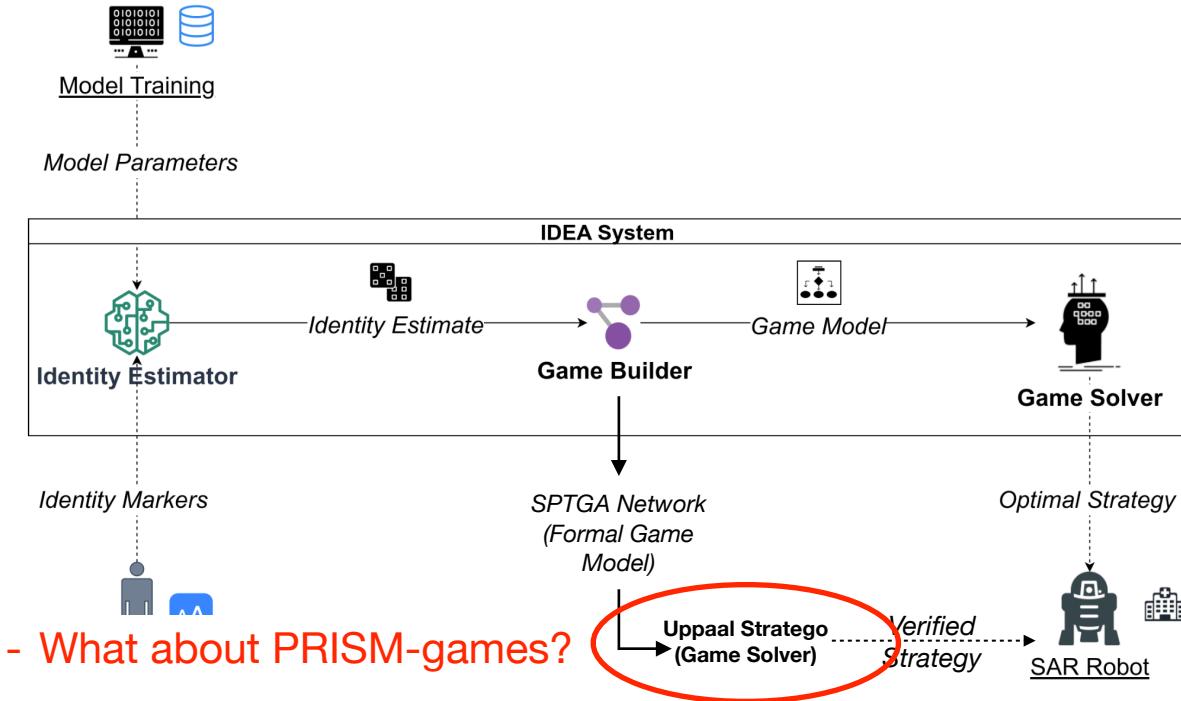
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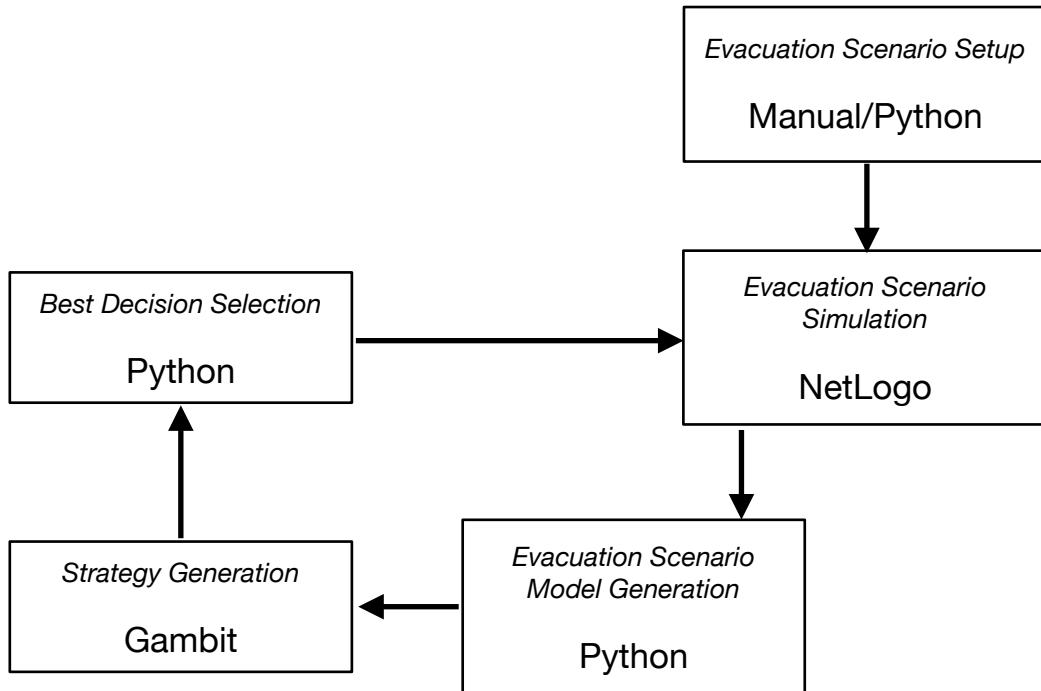
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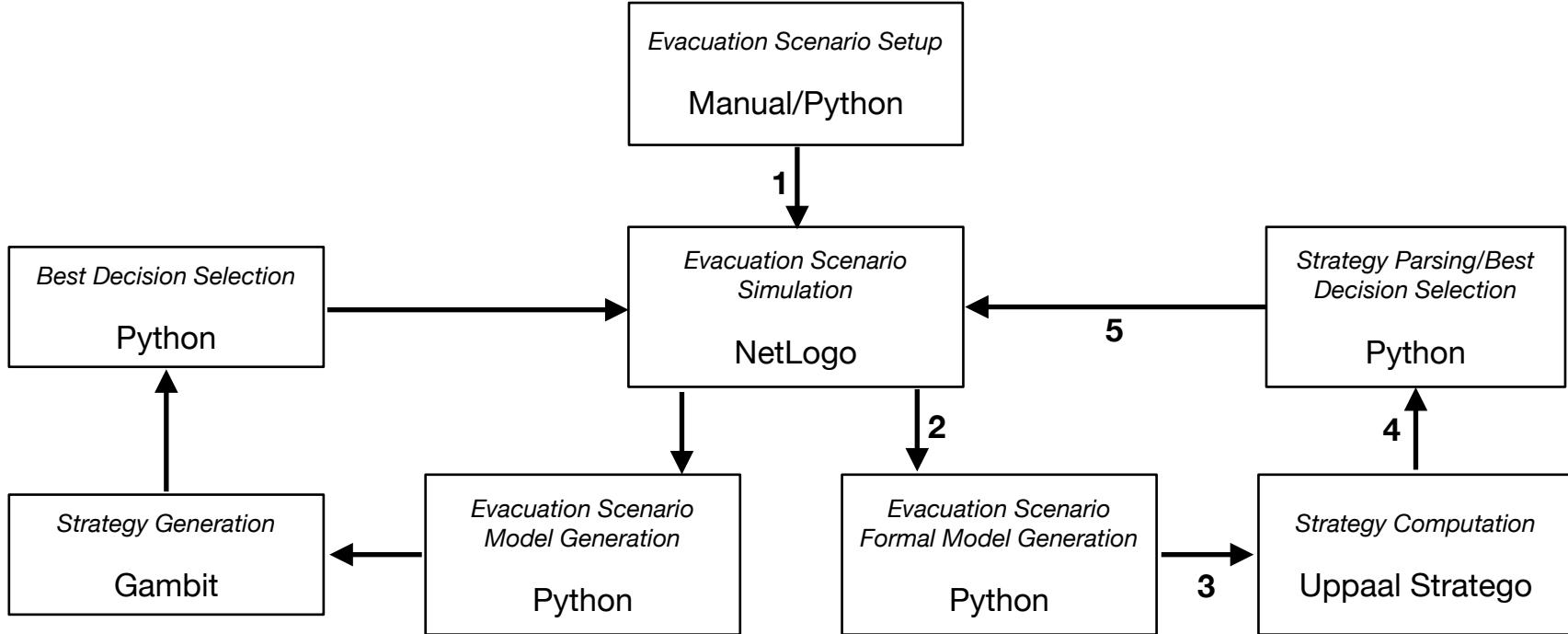


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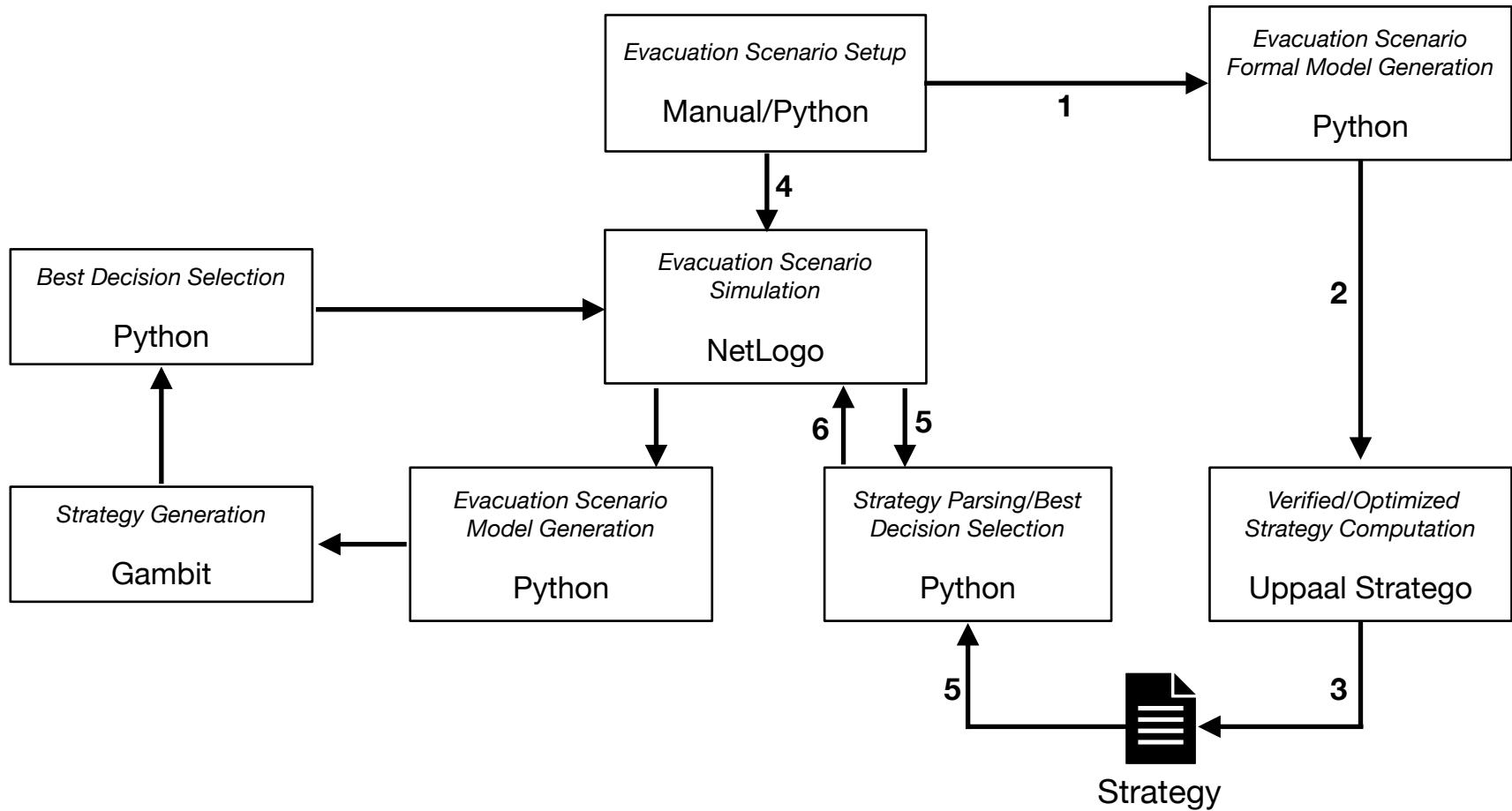
The IDEA Framework



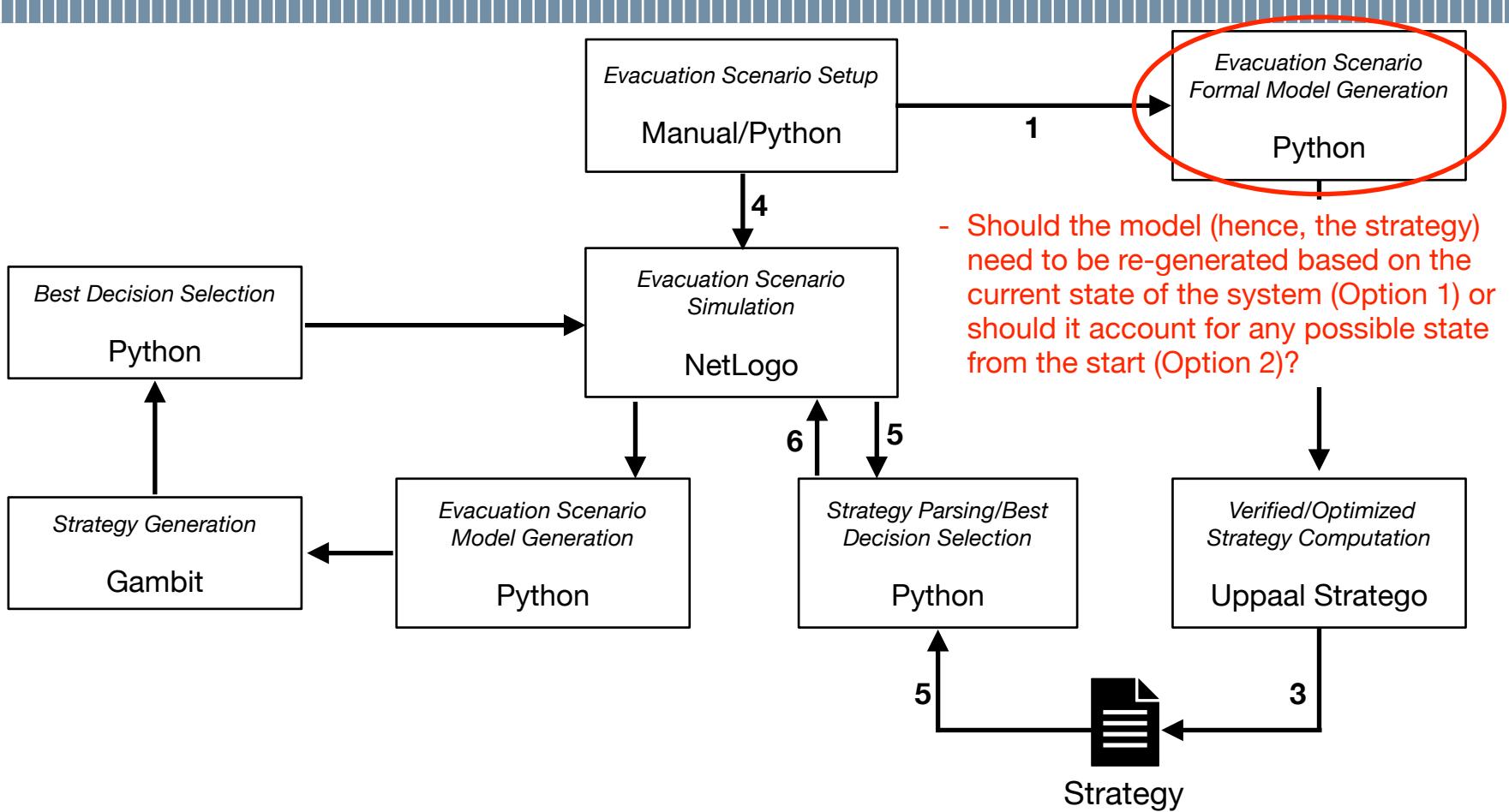
The IDEA Framework + Formal Verification: Option 1



The IDEA Framework + Formal Verification: Option 2



The IDEA Framework + Formal Verification: Option 2



The IDEA Framework + Formal Verification: Current state

