

Learning programs through play

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- Self-supervised learning

Idea



Playing

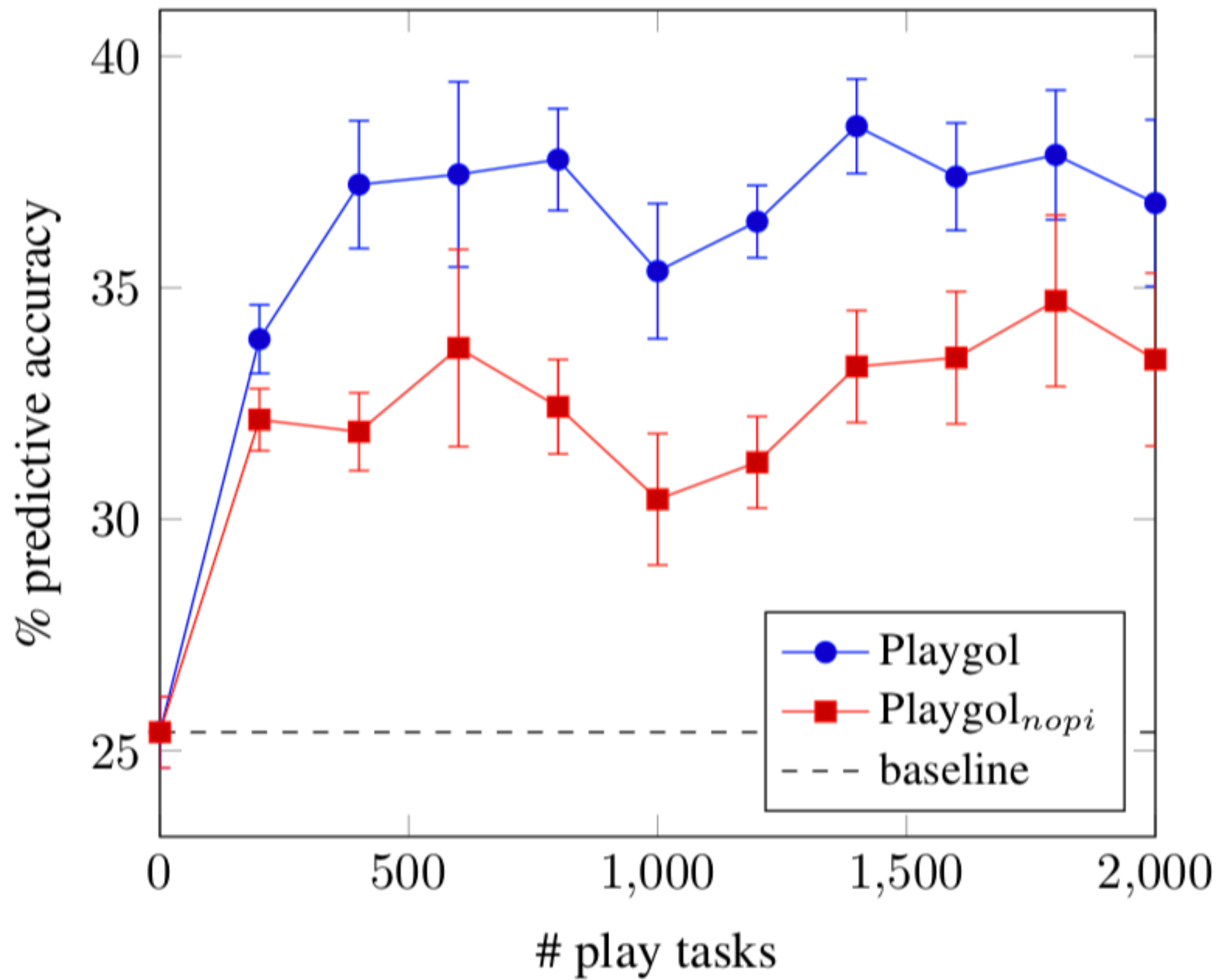
1. Generate random tasks
2. Learn solutions to them
3. Add solutions to the BK

Why?

We increase branching but reduce depth

Input	Output
22 July, 1983 (35 years old)	JUL
30 October, 1955 (63 years old)	OCT
2 November, 1954 (64 years old)	NOV

Task	Input	Output
play_9	.f\73\R)	F
play_52	@B4\X¿3MjKdyZzC	B
play_136	9pfy’’ktfbS1v	99PF
play_228	I6zihQk-	Q



```
build_95(A,B):-play_228(A,C),play_136_1(C,B).  
play_228(A,B):-play_52(A,B),uppercase(B).  
play_228(A,B):-skip1(A,C),play_228(C,B).  
play_136_1(A,B):-play_9(A,C),mk_uppercase(C,B).  
play_9(A,B):-skip1(A,C),mk_uppercase(C,B).  
play_52(A,B):-skip1(A,C),copy1(C,B).
```

Todo

1. Better sampling (based on novelty?)
2. Forgetting
3. When does it work?