

Comparing Learned Models for Neural Guidance in Vampire

Karel Chvalovský

CIIRC CTU

May 27, 2026

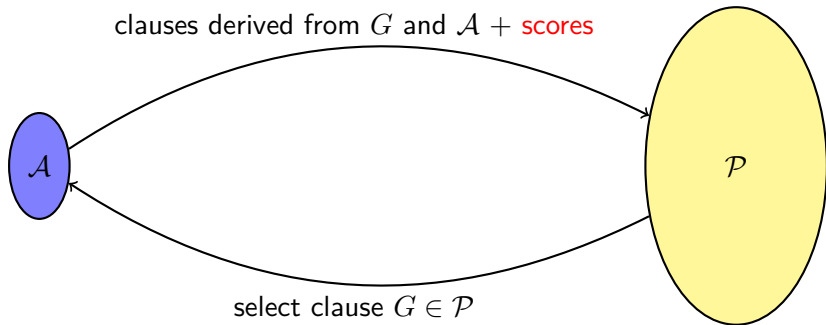
This work was supported by the Czech Science Foundation grant no. 24-12759S.

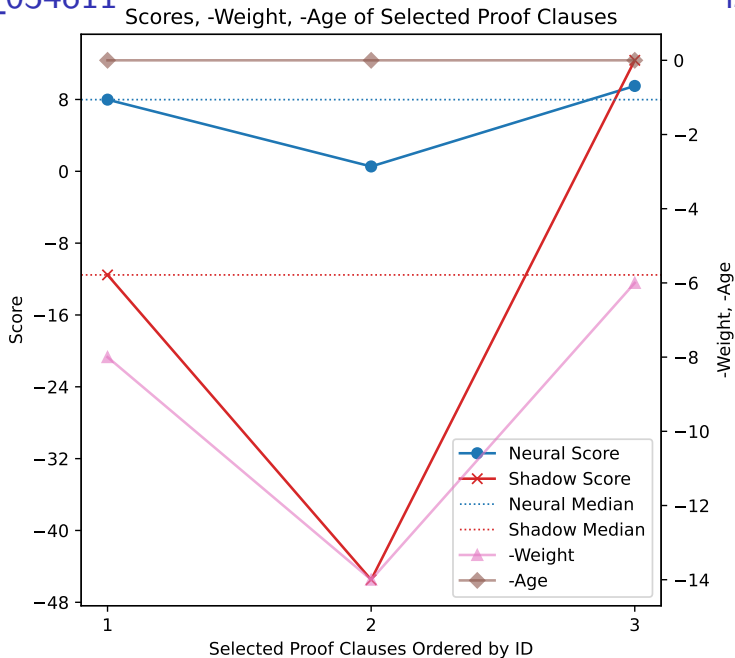


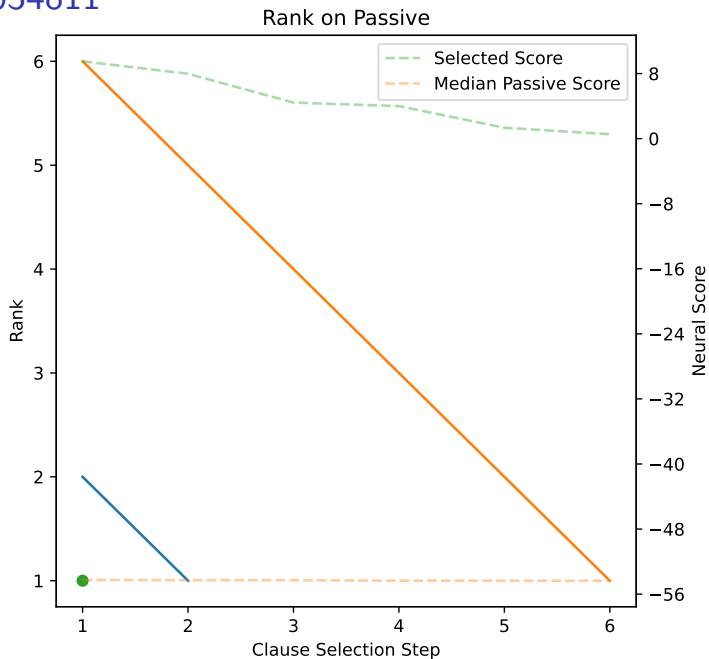
Saturation Loop (A Very Simplified Picture)

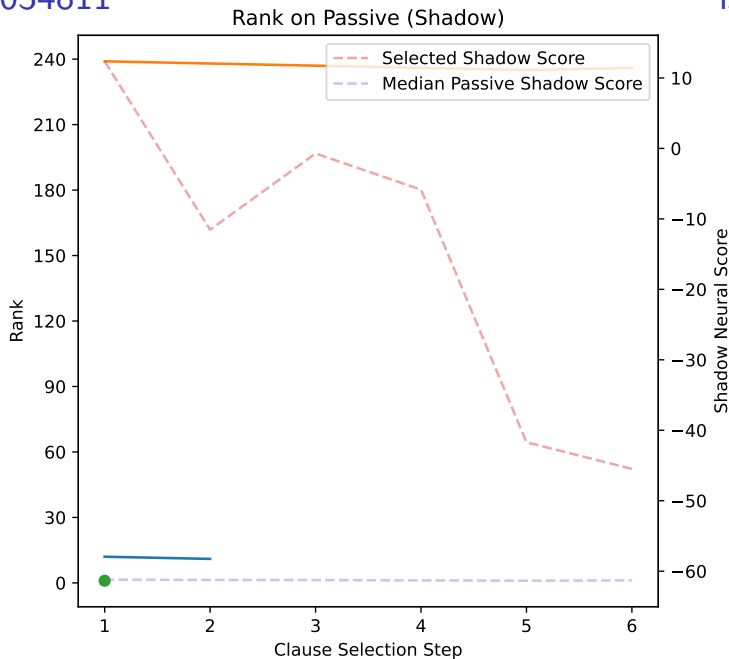
A way how to organize proof search using clause selection (given clause G). We split the clauses into two sets

- ▶ activate clauses \mathcal{A} and
- ▶ passive clauses \mathcal{P} .

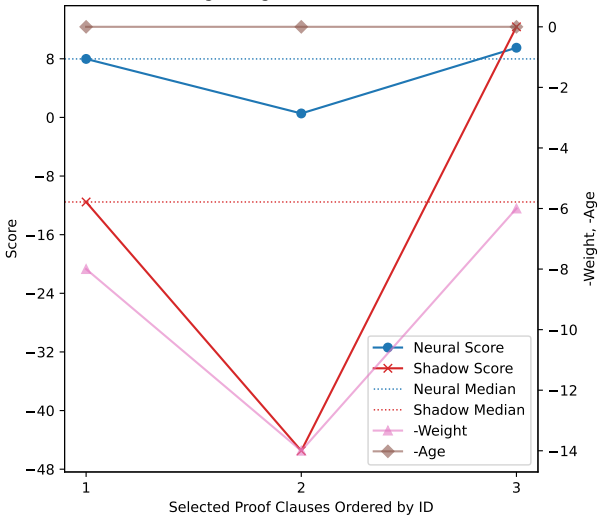




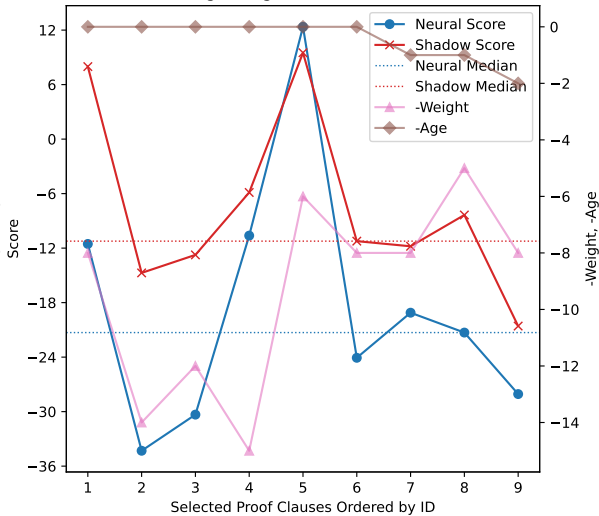




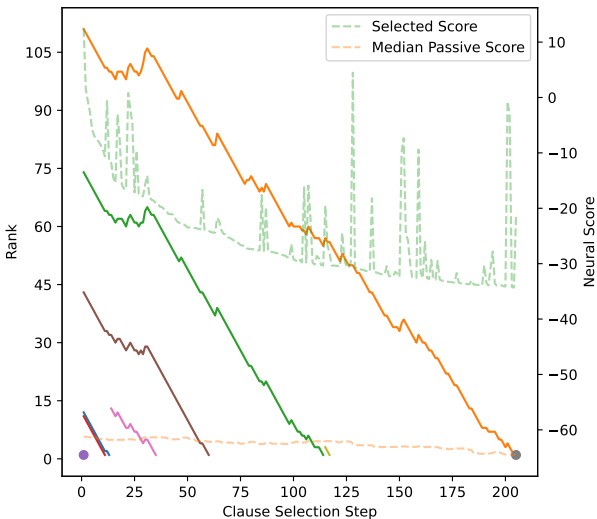
Scores, -Weight, -Age of Selected Proof Clauses



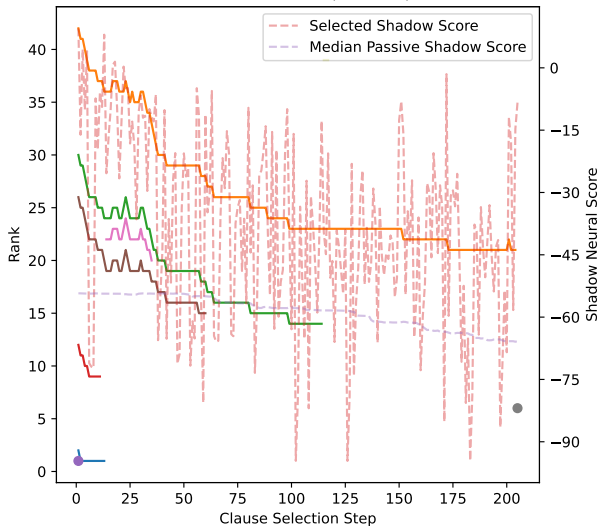
Scores, -Weight, -Age of Selected Proof Clauses

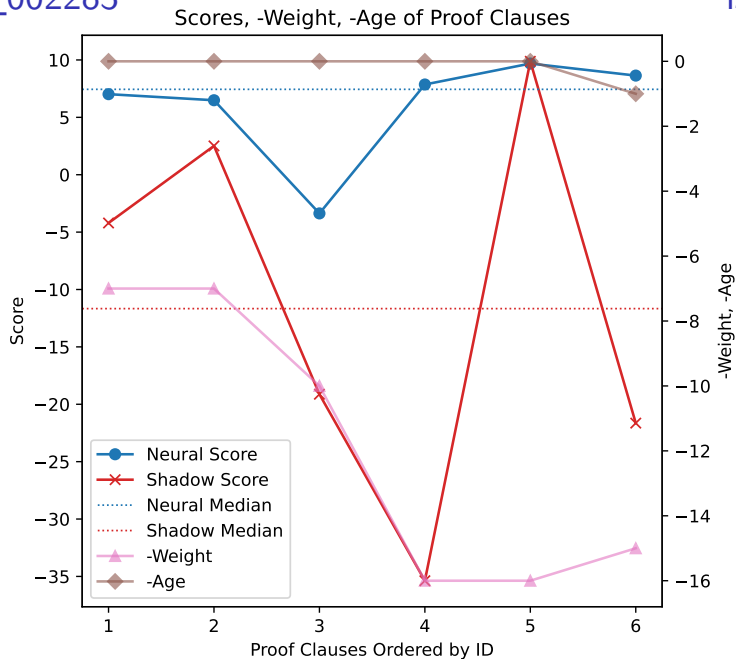


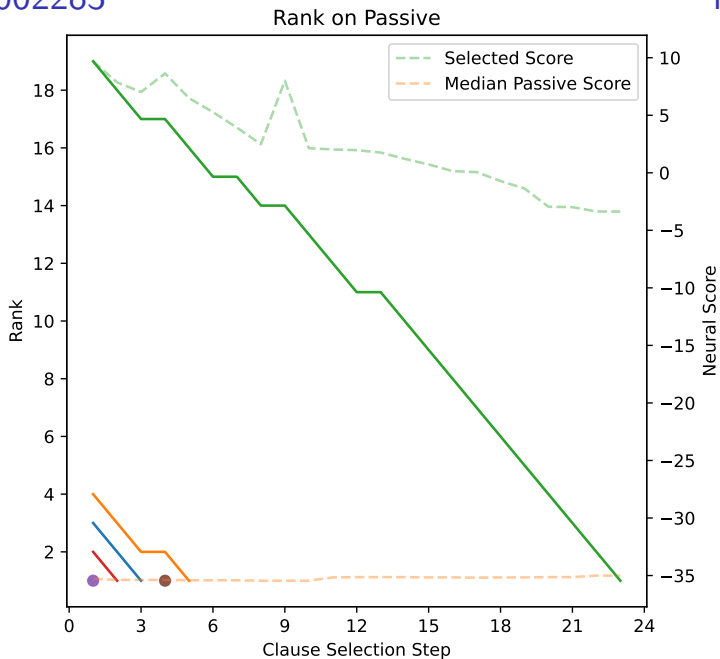
Rank on Passive

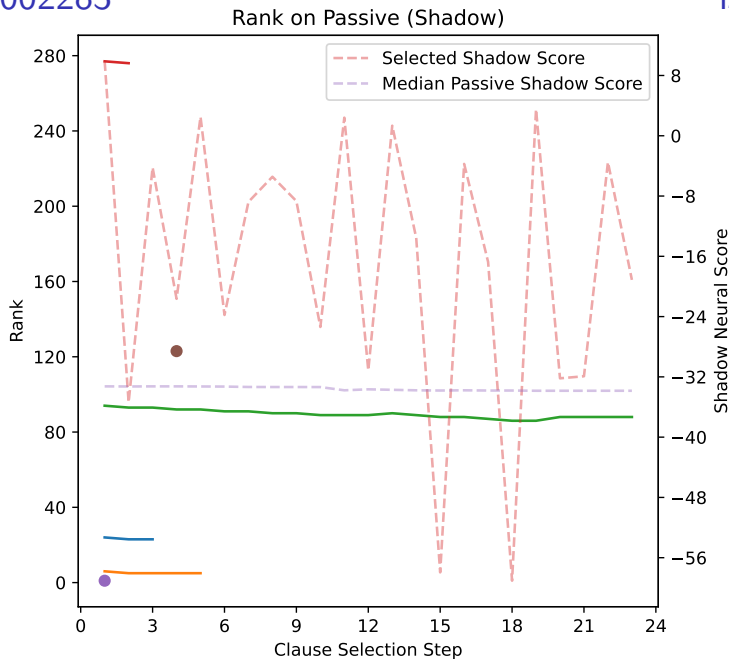


Rank on Passive (Shadow)





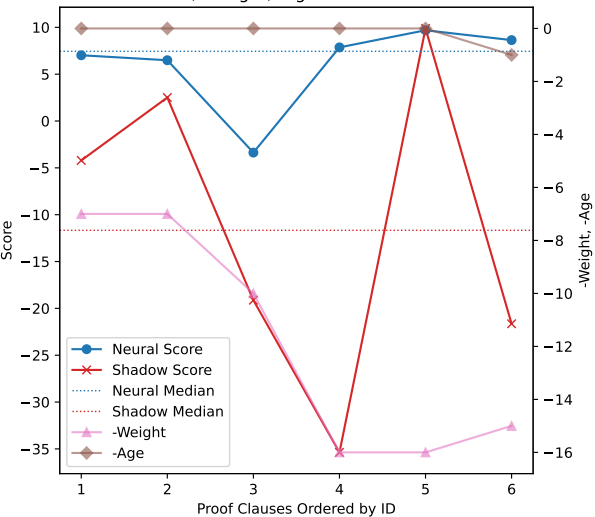




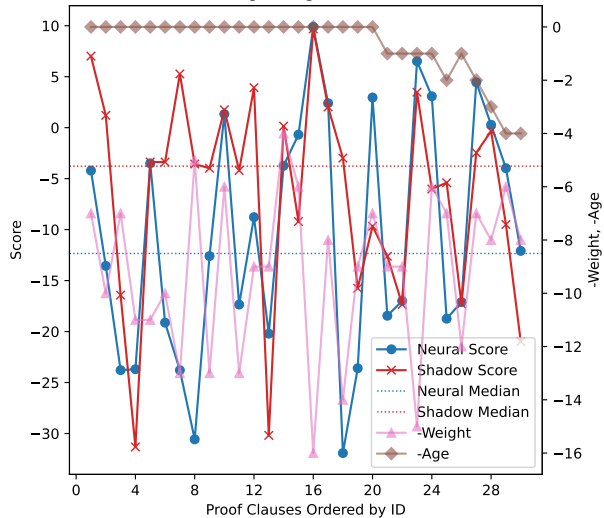
prob_00086_002283

isa25/tptp23

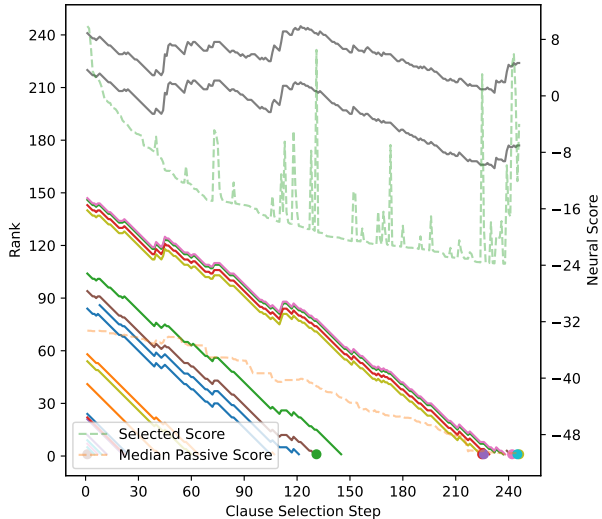
Scores, -Weight, -Age of Proof Clauses



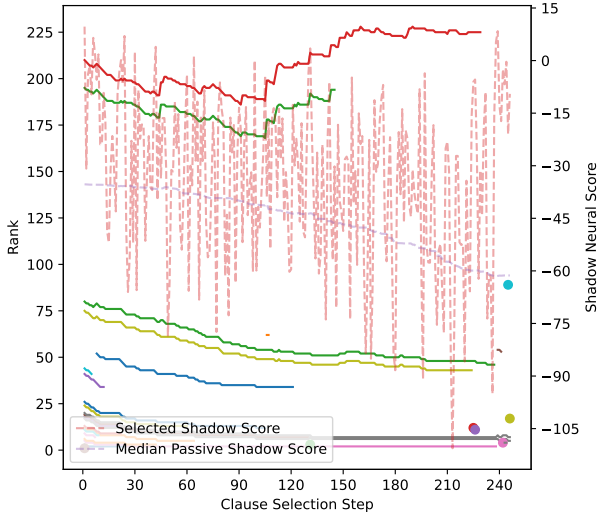
Scores, -Weight, -Age of Proof Clauses



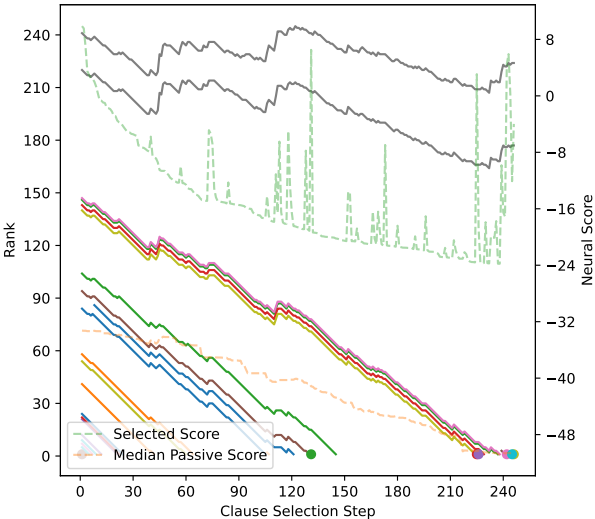
Rank on Passive



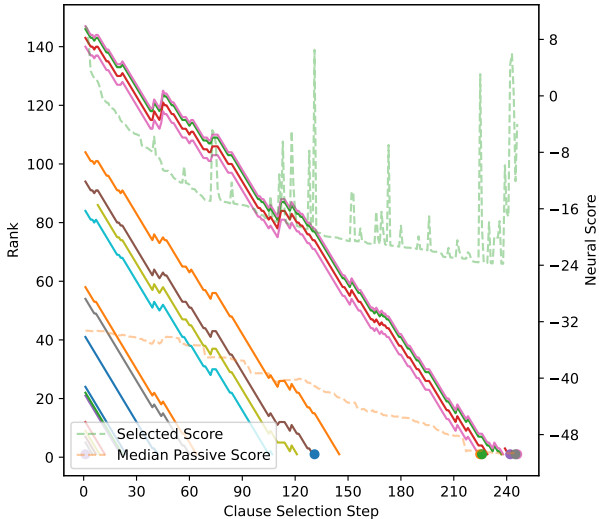
Rank on Passive (Shadow)

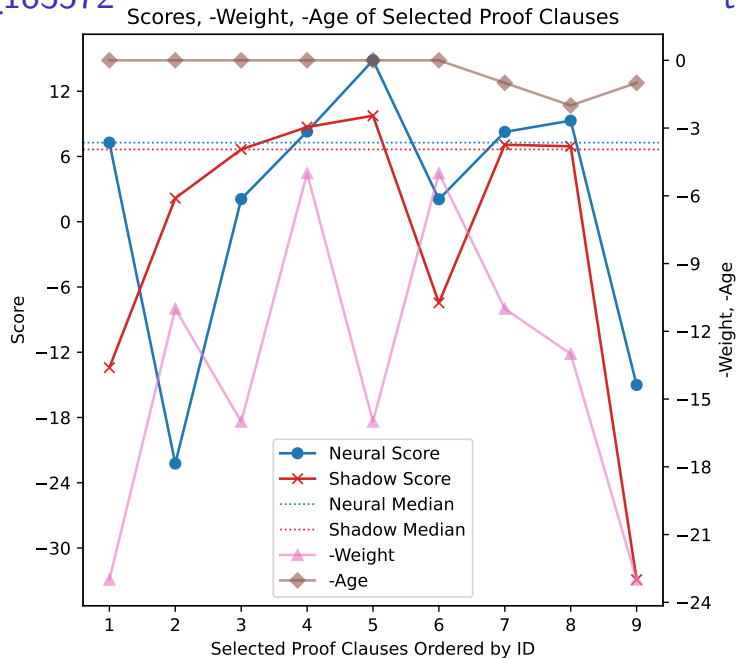


Rank on Passive

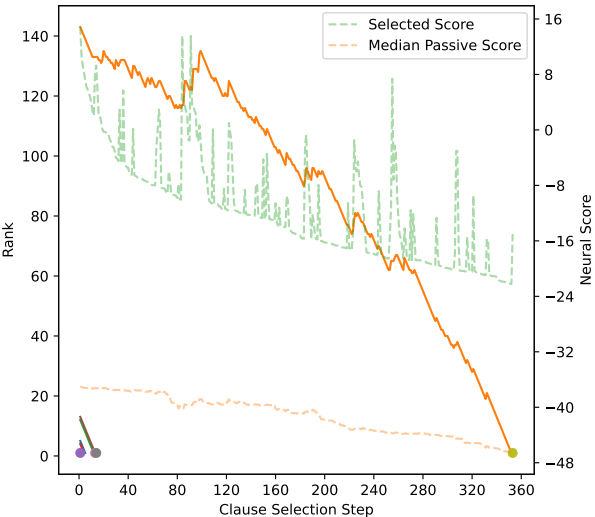


Rank on Passive

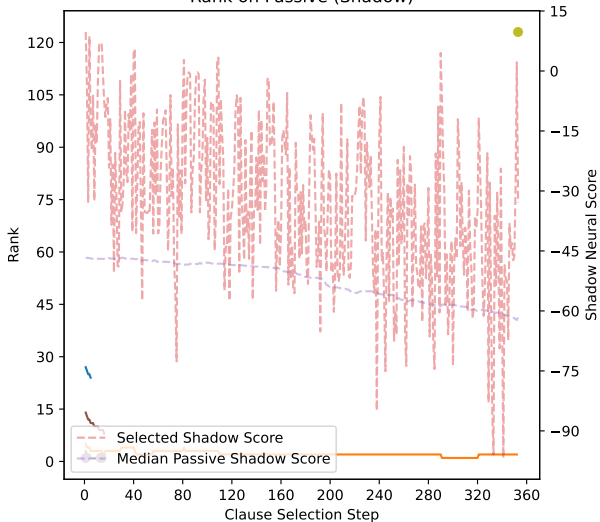


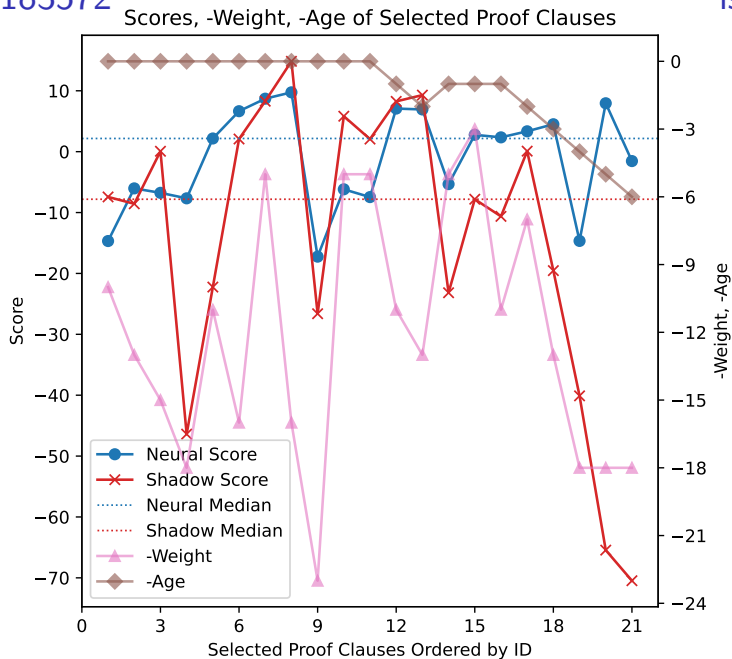


Rank on Passive

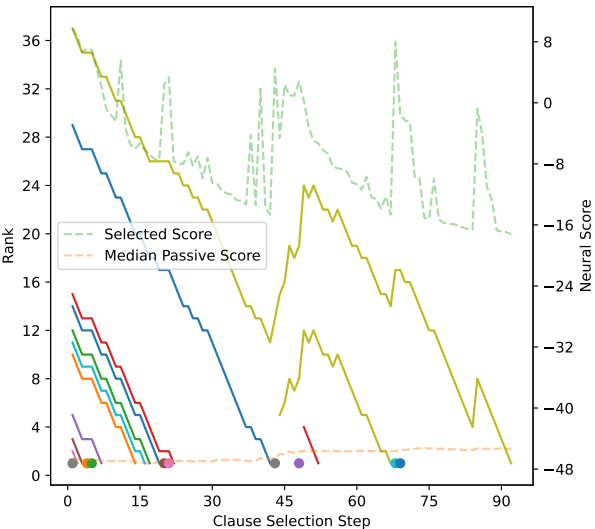


Rank on Passive (Shadow)

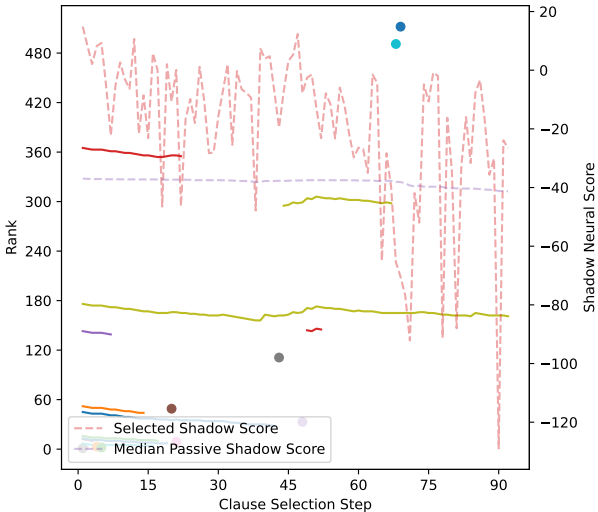


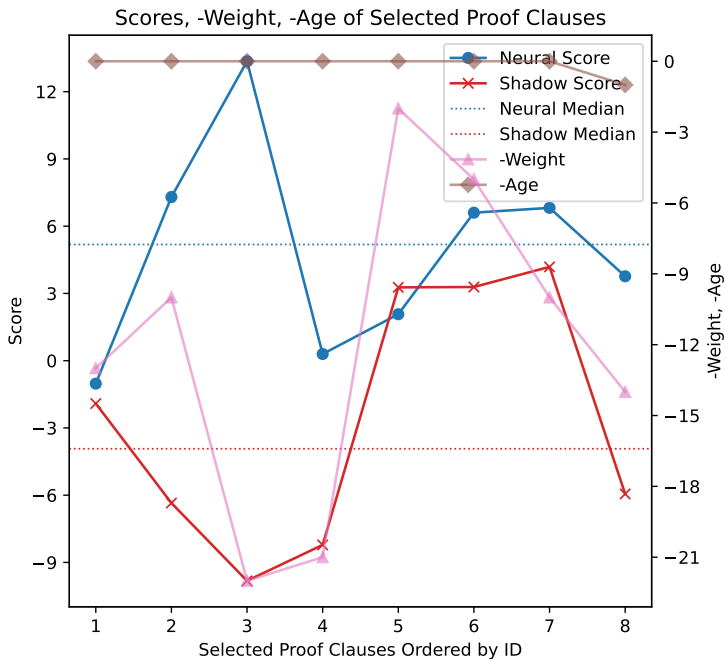


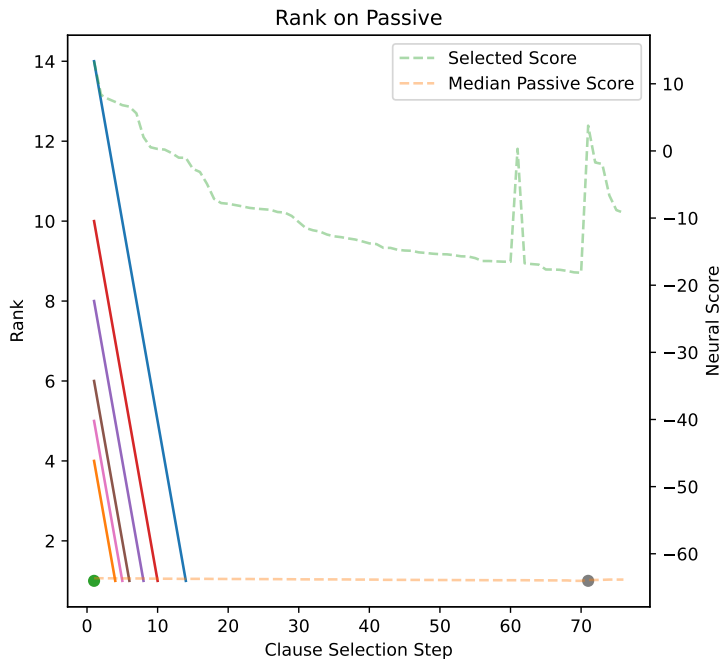
Rank on Passive

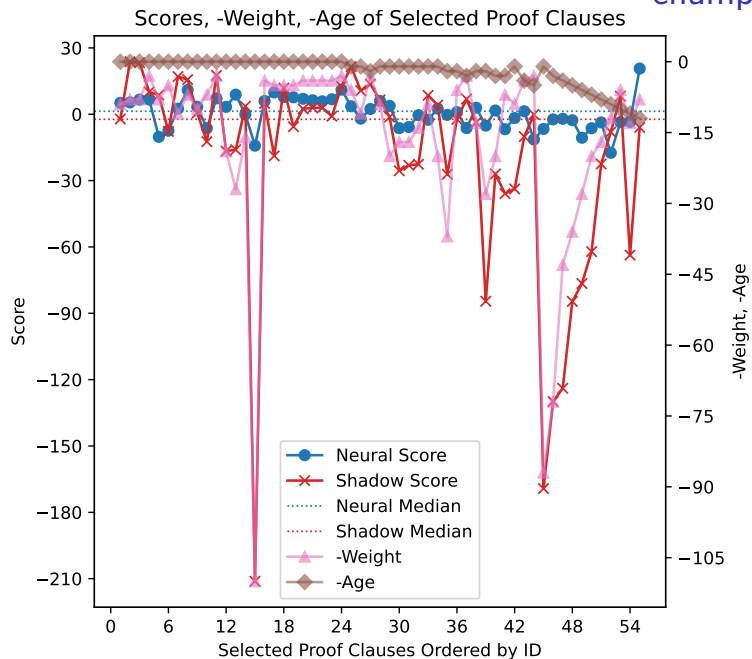


Rank on Passive (Shadow)



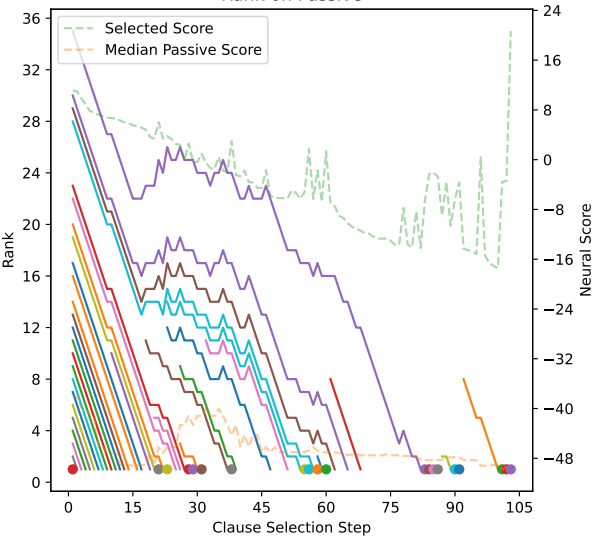






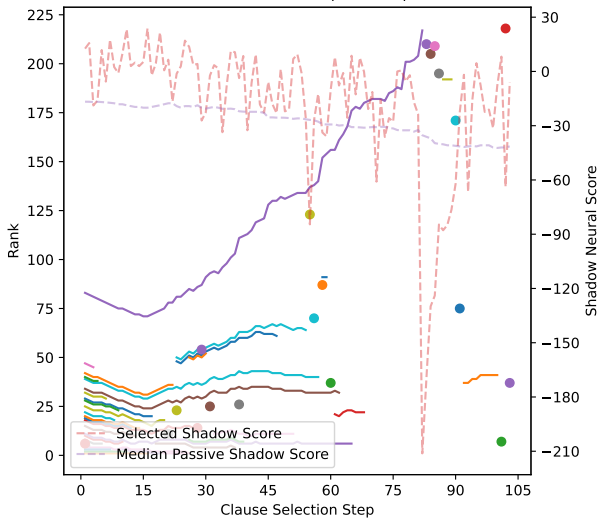
SET339-6

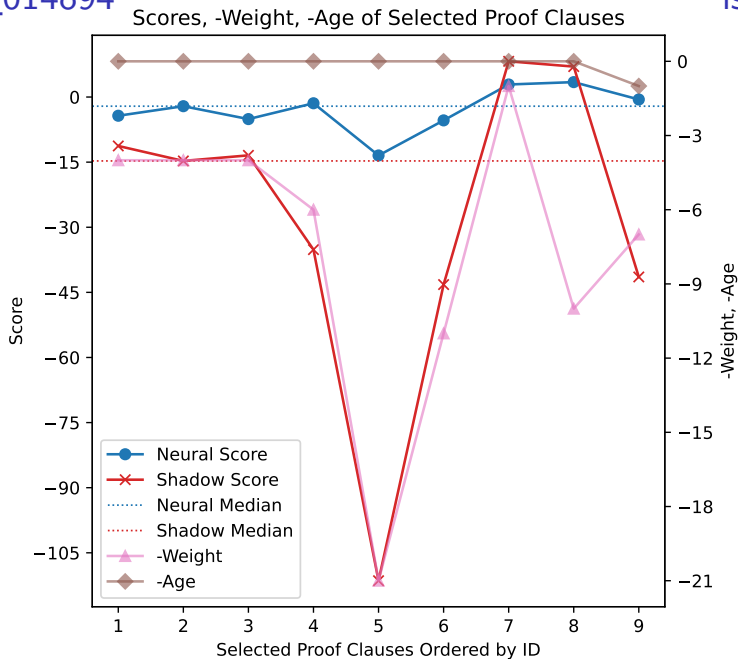
Rank on Passive



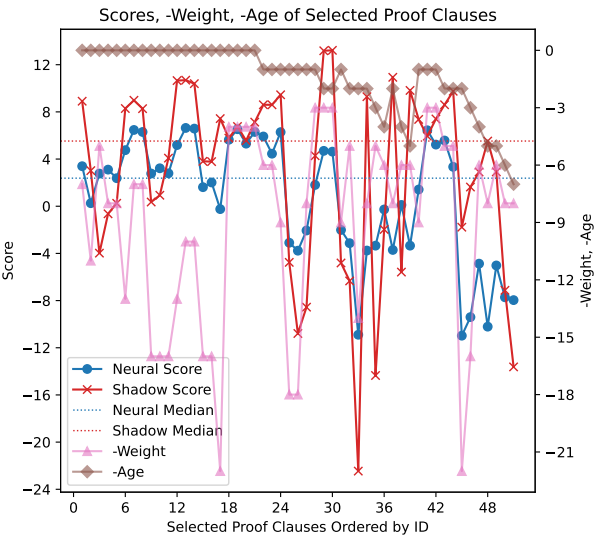
champ1/champ2

Rank on Passive (Shadow)

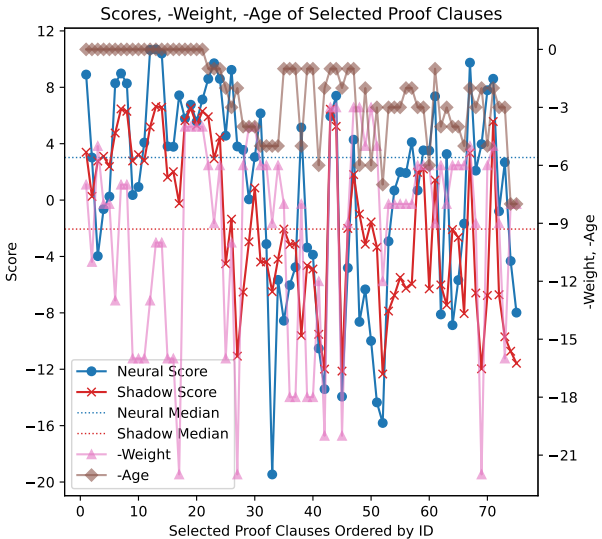




KLE029+1

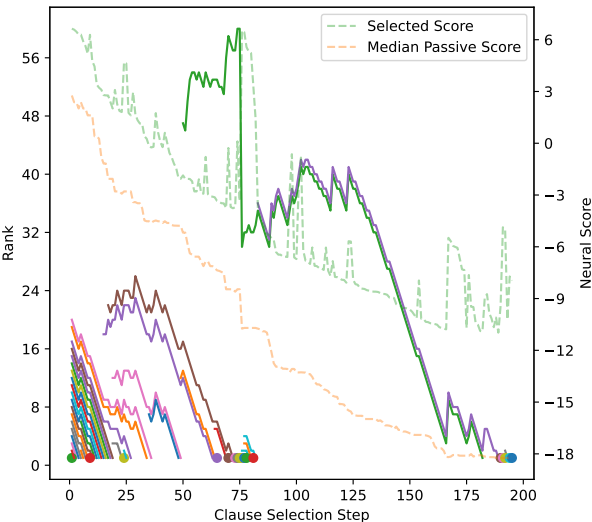


tptp loop2/loop23



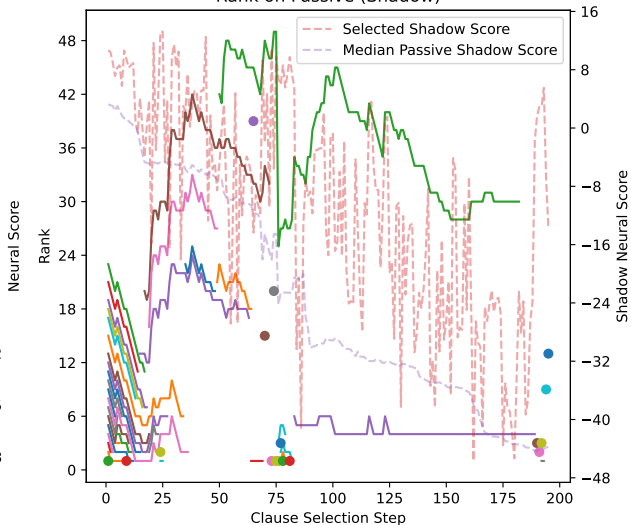
KLE029+1

Rank on Passive



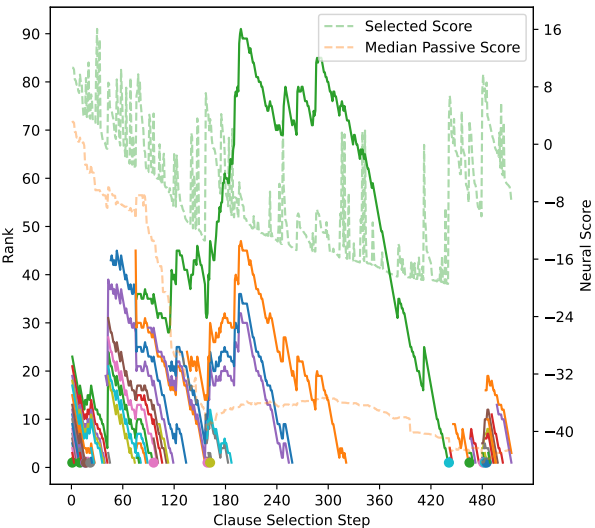
tptp loop2/loop23

Rank on Passive (Shadow)



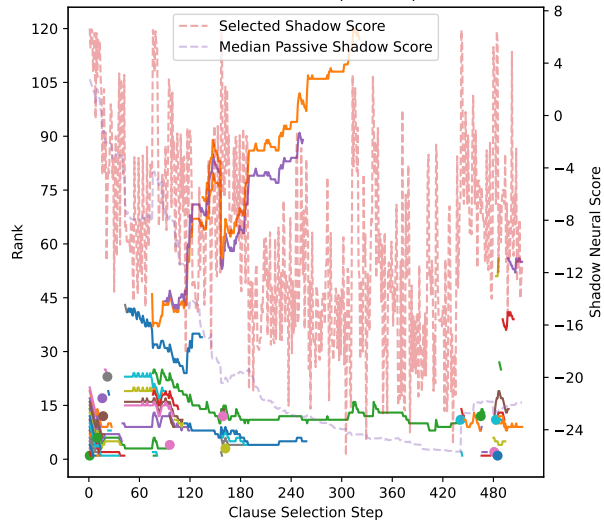
KLE029+1

Rank on Passive



tptp loop23/loop2

Rank on Passive (Shadow)



Thank you!