

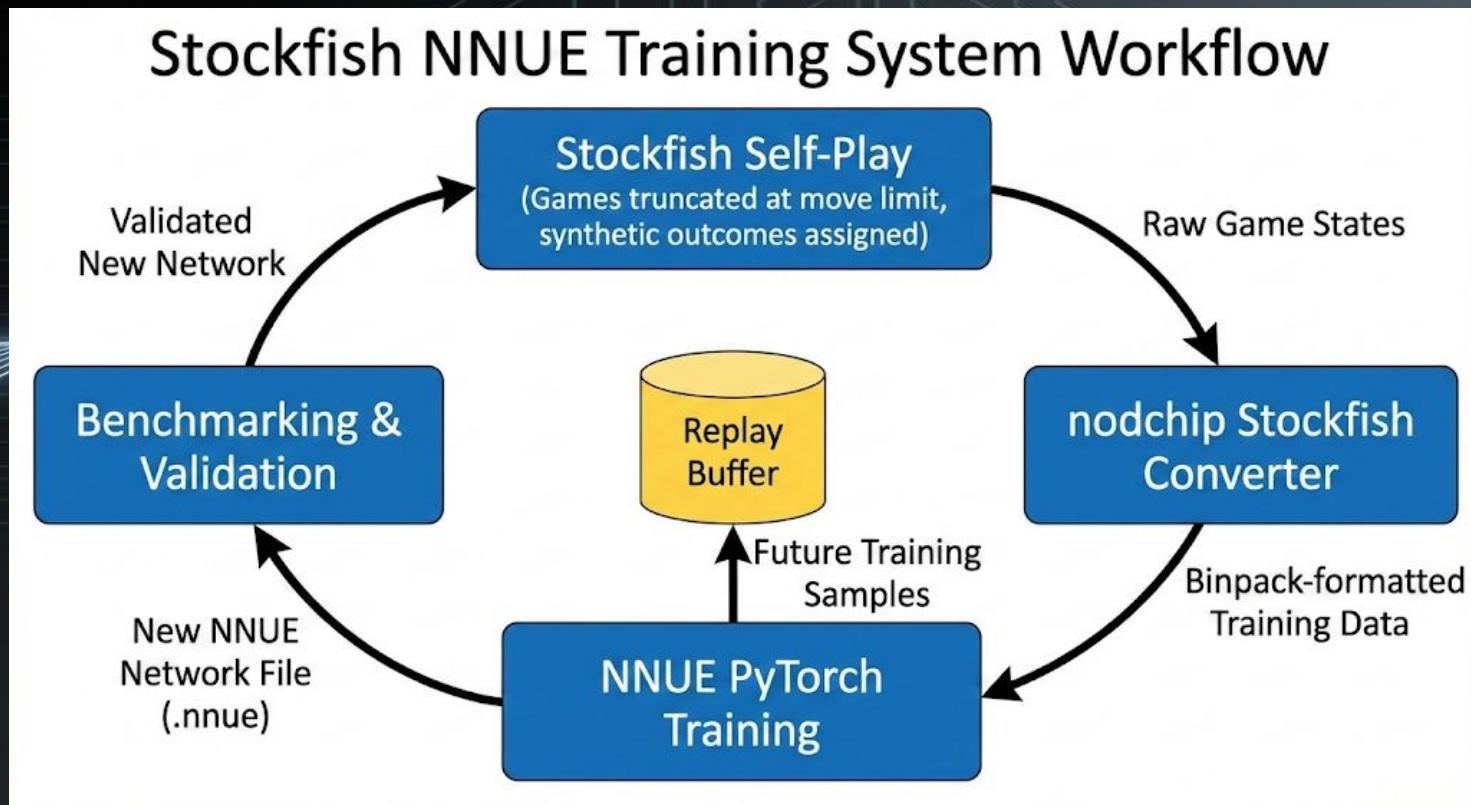
CSCE 585 Project Presentation

Completed by Vito Spatafora

Research Question

Can injecting human-style instructional feedback into early self-play by truncating games and assigning synthetic outcomes (based on material advantage) accelerate learning and convergence in NNUE-based chess evaluation networks compared to standard self-play training?

Experimental Setup



Demo Transition

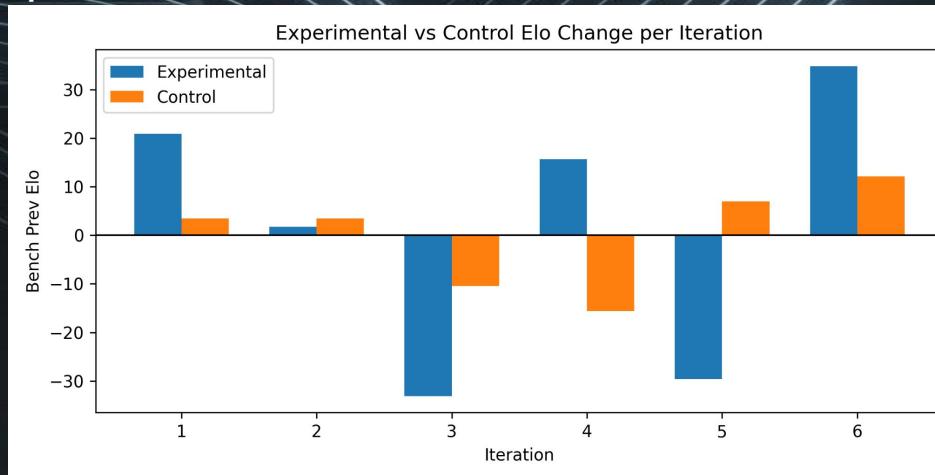
Demo



Results/Data

Both the control and Experimental group were given 6 Iterations to train
(10 minutes of datagen for each iteration)

Fluctuations in elo per iteration compared to previous iteration



The Curriculum Model Outperformed Standard!

Head to Head Matchup after 6 Iterations of Self Play each	
Curriculum Perspective: Experimental Model Versus Control over 10,000 games	Value
Outcome	10000
Wins	5832
Draws	405
Losses	3763
Elo Difference	72.9
Likelihood of Superiority	100%

Discussion, Lesson learned, Insights, Limitations

- Data pipeline consumed majority of my time
- Modules are severely under trained compared to the top engines
- Research did provide strong evidence that truncated games with synthetic result
→ faster converge
- I spent far too much time trying to build everything on my own → do not reinvent the wheel, especially while doing research that requires massive datasets