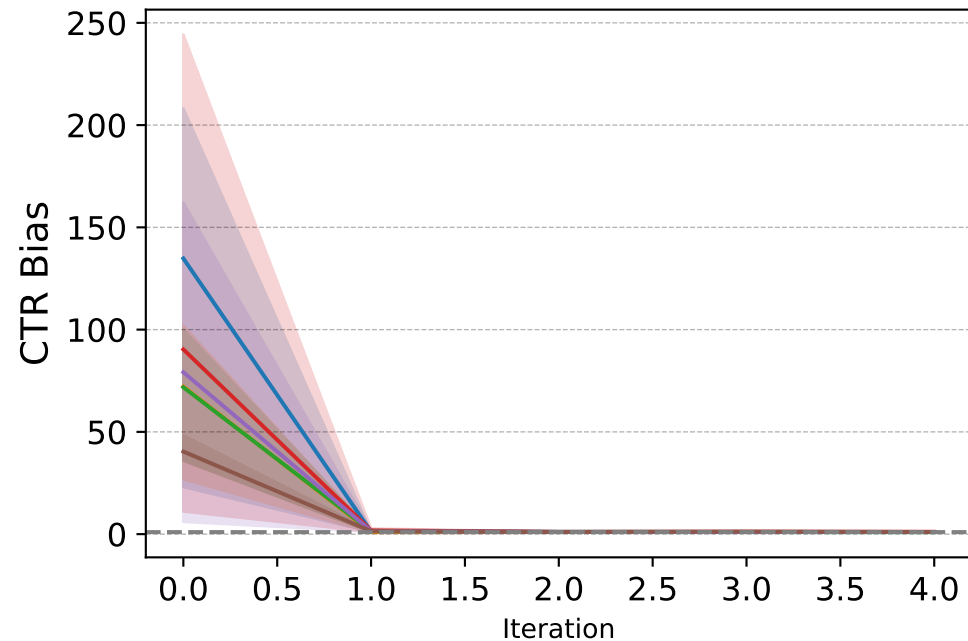


# CTR Bias Over Time



— PPO Bidder - Net Utility 1

— Truthful Competitor 2

— Truthful Competitor 3

— Truthful Competitor 4

— Truthful Competitor 5

— Truthful Competitor 6

- - - Optimal