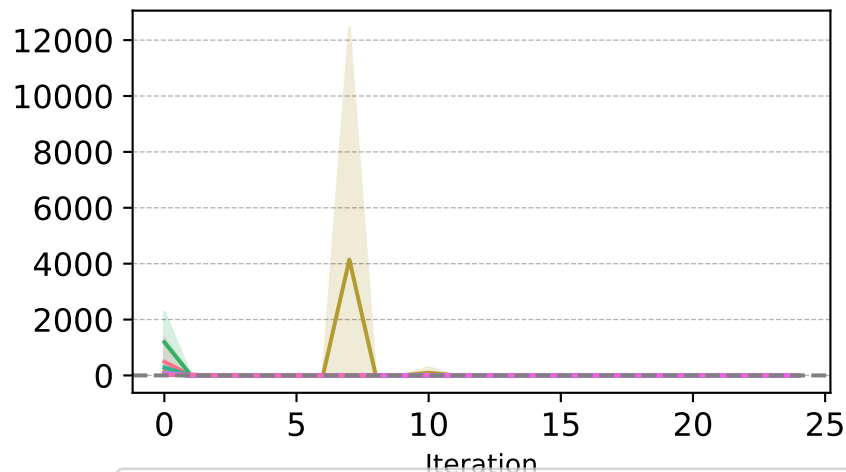


CTR Bias Over Time



— PPO Bidder - Gross Utility 1

— Truthful Competitor 2

— Truthful Competitor 3

— Truthful Competitor 4

— Truthful Competitor 5

— Truthful Competitor 6

— Truthful Competitor 7

— Truthful Competitor 8

— Truthful Competitor 9

— Truthful Competitor 10

— Truthful Competitor 11

— Truthful Competitor 12

— Truthful Competitor 13

— Truthful Competitor 14

— Truthful Competitor 15

— Truthful Competitor 16

--- Optimal