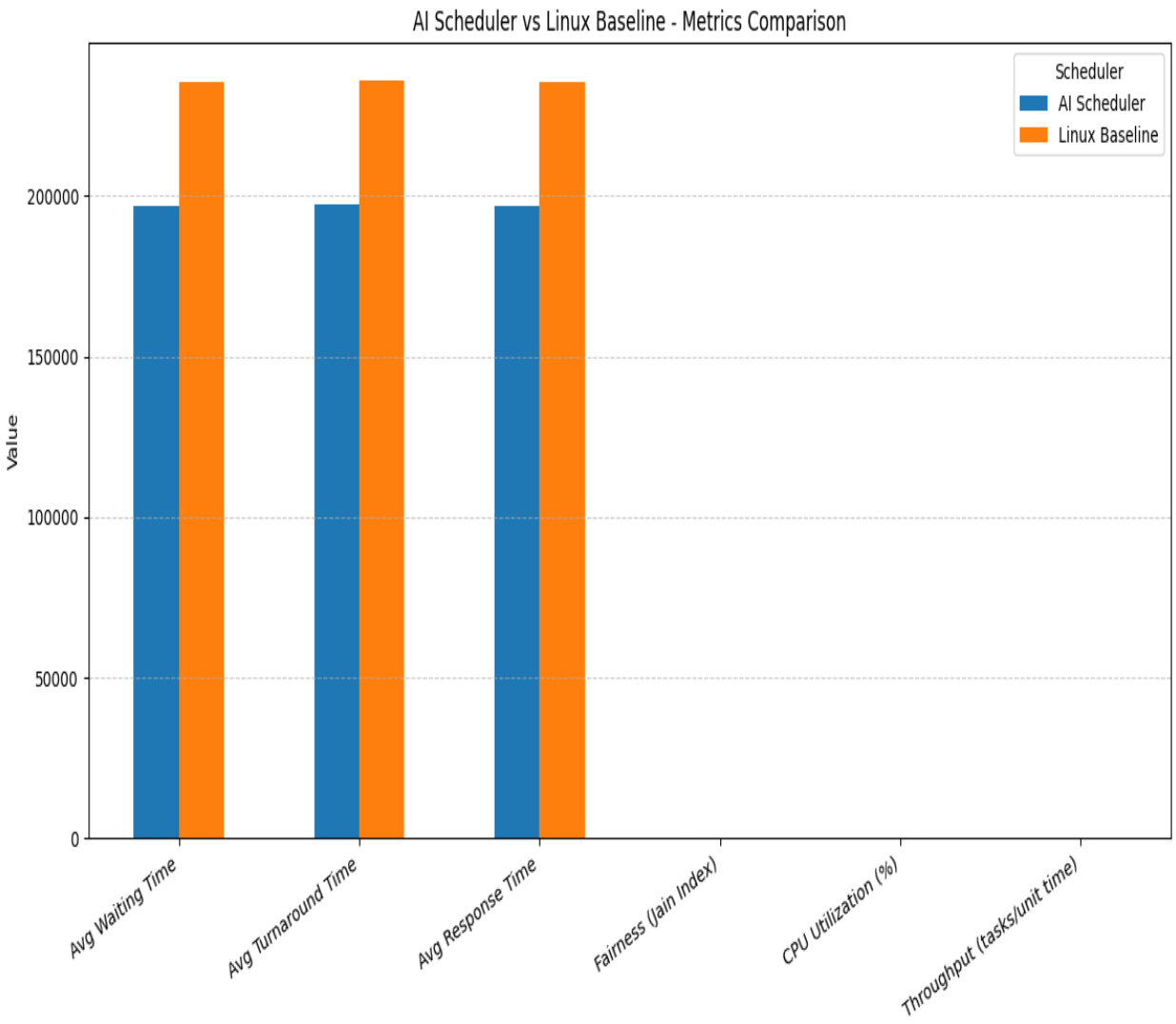
IO WORKLOAD

Aggregate metrics comparison of AI-augmented Linux-like baseline scheduler and the Linux-like baseline scheduler:

Metric	**Linux-like Baseline Scheduler**	**AI-augmented Linux-like Scheduler**
Simulated ticks	625244	625244
Average Turnaround Time	**235,751.33**	**197,340.84**
Median Turnaround Time	**28,047.00**	**22,427.00**
Average Response Time	**235,288.61**	**196,877.98**
95th Percentile Response	620,834.60	620,822.20
Fairness (Jain Index)	0.008850	0.008850
CPU Utilization (%)	99.85	99.85
Context Switches	**2,480,065**	**2,479,682**
Tasks Total	1,383	1,383
Tasks Completed	1,383	1,383
Throughput (tasks/unit time)	0.002212	0.002212

PLOT:



Results Summary -

On an IO-intensive workload with **1,383 tasks**, the **AI-augmented Linux-like scheduler** consistently outperformed the baseline:

- **Average Turnaround Time reduced by 16.3%** (from 235,751 → 197,341 ticks).
- **Average Response Time reduced by 16.3%** (from 235,289 → 196,878 ticks).
- **Median Turnaround Time improved by 20%** (from 28,047 → 22,427 ticks).

- **95th percentile response** remained effectively unchanged, proving no regression on tail latency.
- **Fairness, CPU utilization, throughput** all stayed identical.
- **Context switches slightly reduced (~0.02%)**, showing no added scheduling overhead.

Interpretation: For IO-heavy workloads, AVIOS reduces waiting and turnaround significantly while maintaining fairness and efficiency, making it more responsive under high disk/network activity.