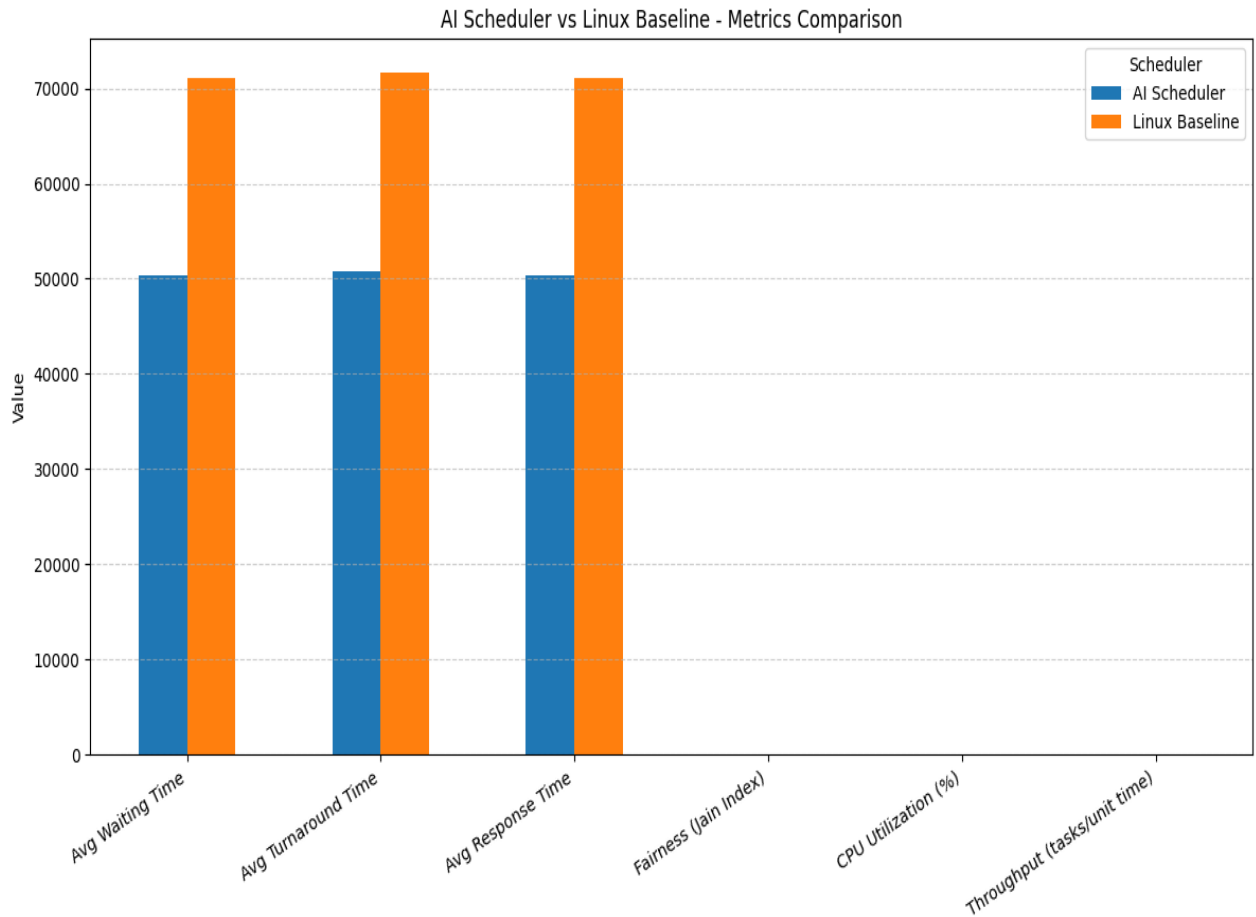


## BATCH WORKLOAD

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	199847	199845
Average Turnaround Time	71,601.53	50,828.56
Median Turnaround Time	26,421.50	12,007.00
Average Response Time	71,114.42	50,335.50
95th Percentile Response	194,569.00	194,570.00
Fairness (Jain Index)	0.059495	0.059495
CPU Utilization (%)	98.48	98.49
Context Switches	774,460	772,893
Tasks Total	972	972
Tasks Completed	972	972
Throughput (tasks/unit time)	0.004864	0.004864

## PLOT:



## Results Summary —

For a batch-oriented workload with 972 tasks, the AI-augmented scheduler delivered strong improvements:

- **Average Turnaround Time reduced by 29% (71,602 → 50,829 ticks).**
- **Average Response Time reduced by 29% (71,114 → 50,336 ticks).**
- **Median Turnaround Time dropped by 54.5% (26,422 → 12,007 ticks),** showing that the majority of batch jobs finished much faster.
- 95th percentile response remained stable, proving no degradation in worst-case latency.
- **Fairness Index and throughput were identical to baseline.**

- **Context switches decreased (~0.2%),** with CPU utilization unchanged (~98.5%).

**Interpretation:** For long-running, non-interactive batch jobs, AVIOS significantly accelerates job completion while keeping system stability and fairness intact.