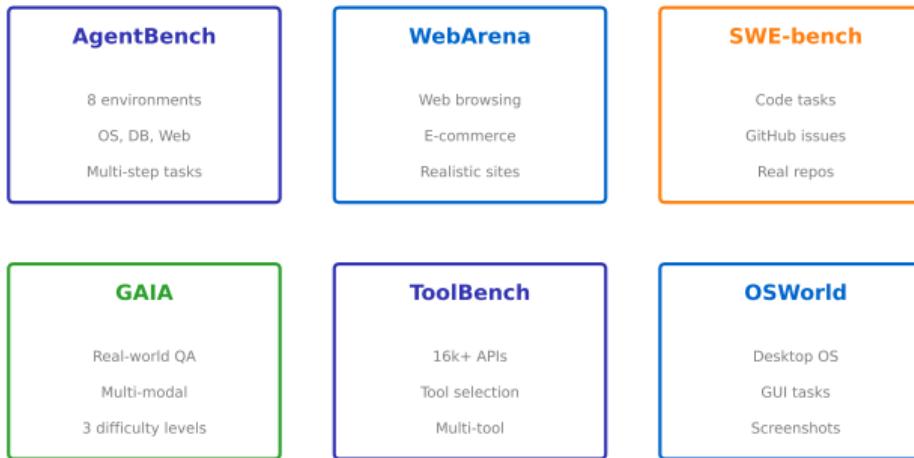


# Agent Evaluation

Week 10: Benchmarks, Metrics, and Assessment

PhD Course in Agentic Artificial Intelligence

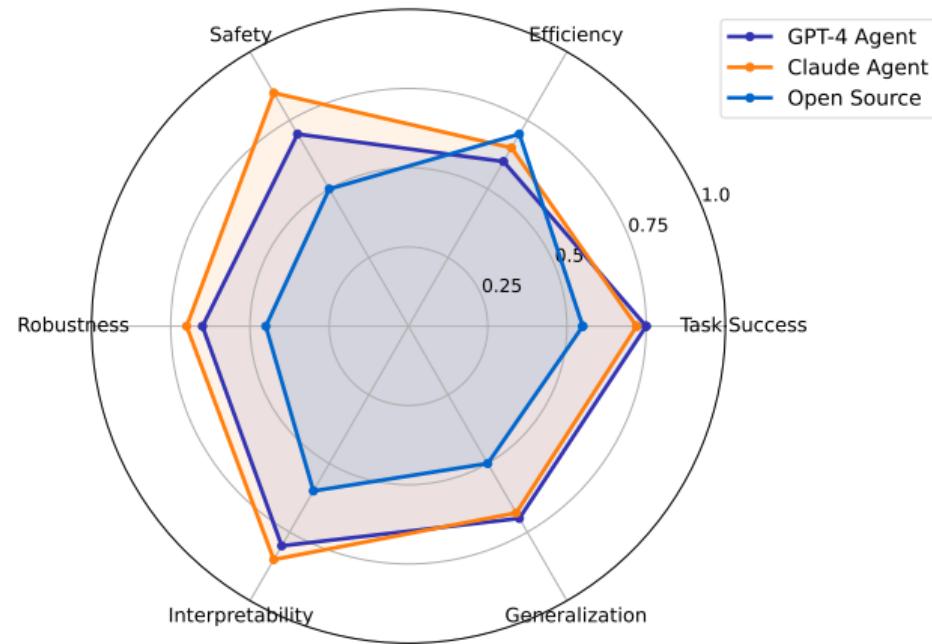
## Agent Benchmark Landscape



Each benchmark tests different agent capabilities and environments.

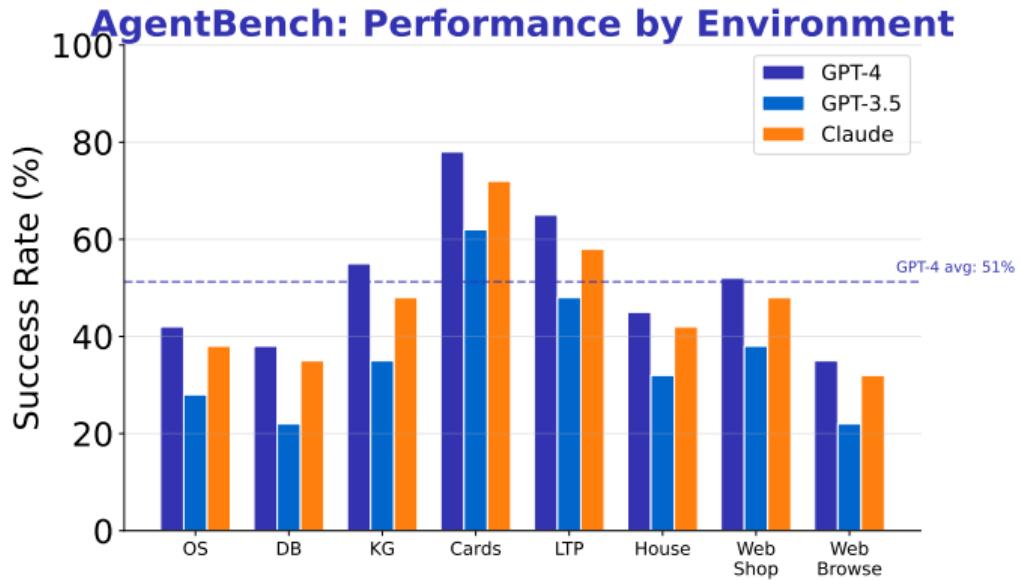
## Evaluation Dimensions

### Agent Evaluation Dimensions



evaluation requires multiple dimensions beyond accuracy.

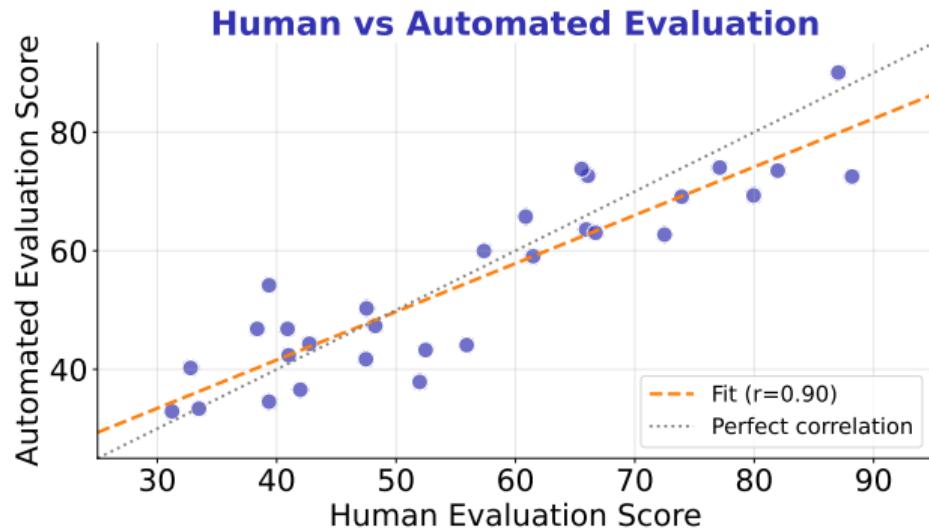
Com



varies significantly across environments and models.

Perfo

## Human vs Automated Evaluation



metrics correlate with human judgment but not perfectly.

Auto

## This Week

- Liu et al. (2023). "AgentBench: Evaluating LLMs as Agents." arXiv:2308.03688
- Zhou et al. (2024). "WebArena: A Realistic Web Environment." arXiv:2307.13854
- Mialon et al. (2024). "GAIA: A Benchmark for General AI Assistants." arXiv:2311.12983

---

provides the most comprehensive multi-environment evaluation.

Agen

## Key Concepts

- **Benchmarks:** AgentBench, WebArena, SWE-bench (software engineering), GAIA
- **Dimensions:** Success, efficiency, safety, robustness
- **Methods:** Automated metrics + human evaluation

## Next Week

- Domain Applications: Code, Finance, Healthcare

evaluation = right benchmark + right metrics + right baseline (reference model).

Good