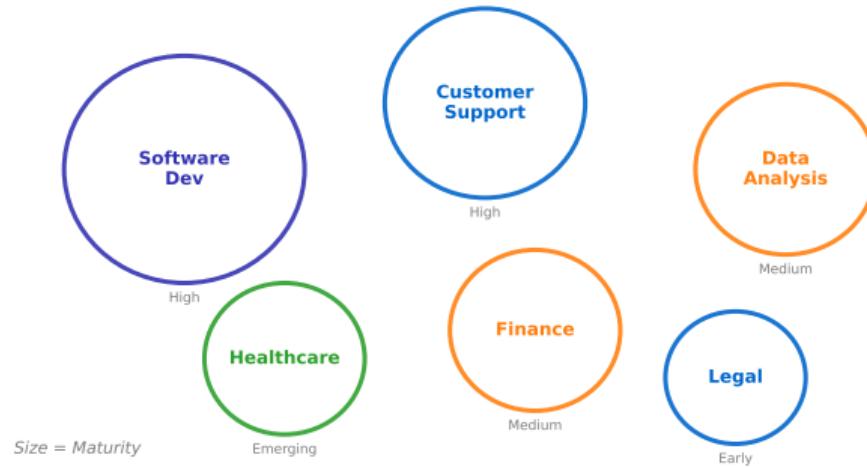


Domain Applications

Week 11: Code, Finance, and Healthcare Agents

PhD Course in Agentic Artificial Intelligence

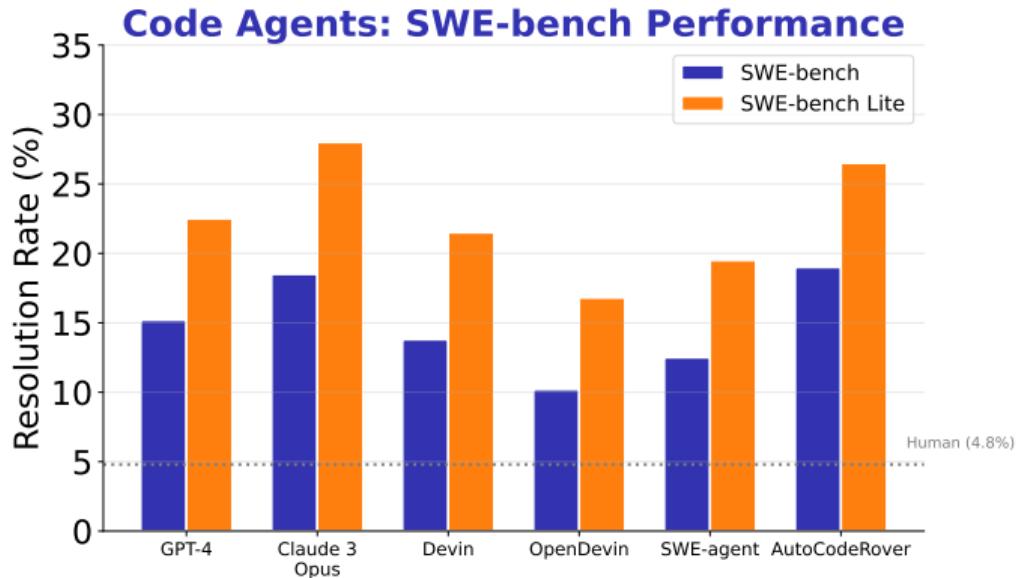
Agent Application Domains



development leads in maturity; healthcare is emerging.

Softw

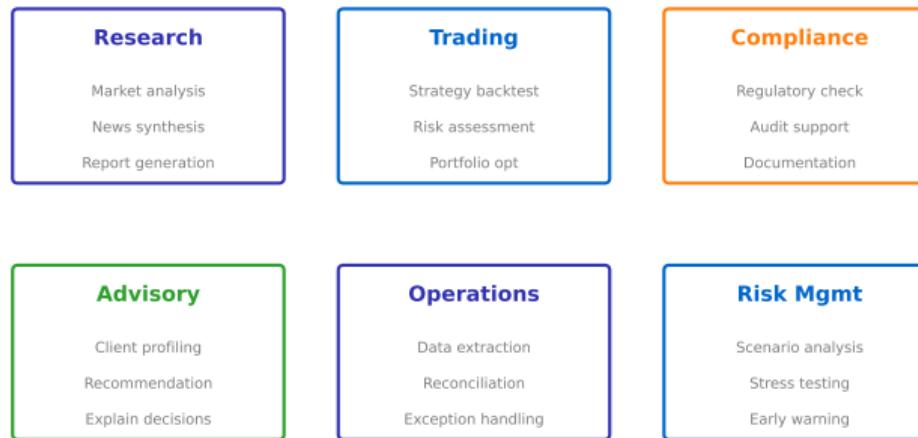
Code Agents: SWE-bench Performance



agents now outperform average human developers on SWE-bench.

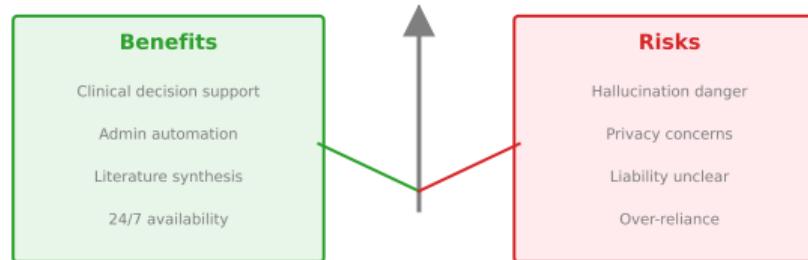
Code

Finance Agent Applications



agents span research, trading, compliance, and operations.

Healthcare Agent Considerations



Human oversight essential | Narrow use cases first

requires careful balance of benefits vs risks.

Health

This Week

- Jimenez et al. (2024). "SWE-bench: Can Language Models Resolve Real-World GitHub Issues?" arXiv:2310.06770
- Ridnik et al. (2024). "AlphaCodium: Code Gen. with Flow Engineering (structured pipelines)." arXiv:2401.08500
- Li et al. (2024). "FinAgent: A Multimodal Foundation Agent for Financial Trading." arXiv:2402.18485

Focus

on SWE-bench paper for understanding code agent evaluation.

Key Insights

- **Code:** Most mature domain; SWE-bench as gold standard
- **Finance:** High value but requires compliance (regulatory) awareness
- **Healthcare:** High stakes require human oversight

Next Week

- Research Frontiers and Final Projects

expertise + agent capabilities = real-world impact.

Dom