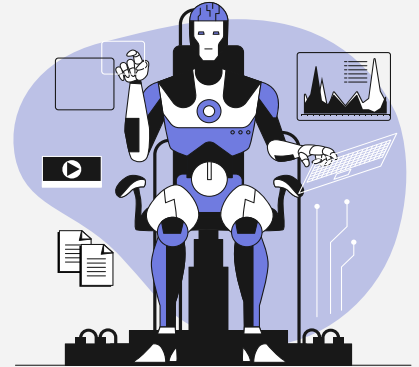# Artificial Intelligence & Machine Learning

Annabella Forziati

What is it?

Artificial Intelligence

Technology that mimics human intelligence—like learning, reasoning, and problem-solving.

Machine Learning

A type of AI where systems learn from data and get better over time without being directly programmed.

Who's Using It, How, and Why?

Who

Tech companies, healthcare, finance, construction, marketing, government, etc.

How

Predictive analytics, automating tasks, resource allocation, risk identification, chatbots & virtual assistance
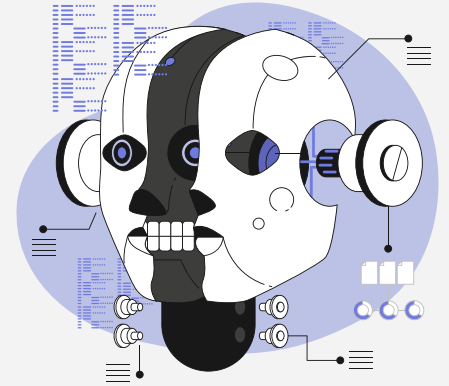
Why

Speeds up decision-making, increases accuracy, reduces repetitive tasks

Advantages, Disadvantages & Risks

Advantages

- Improves forecasting and decision-making
- Boosts productivity through automation
- Reduces human error in repetitive tasks
- Enables real-time data insights and updates
- Supports better resource allocation

Disadvantages

- High implementation and training costs
- Lack of in-house expertise or tech skills
- Resistance to change from teams
- Integrating with existing tools/processes
- Keeping up with evolving technologies
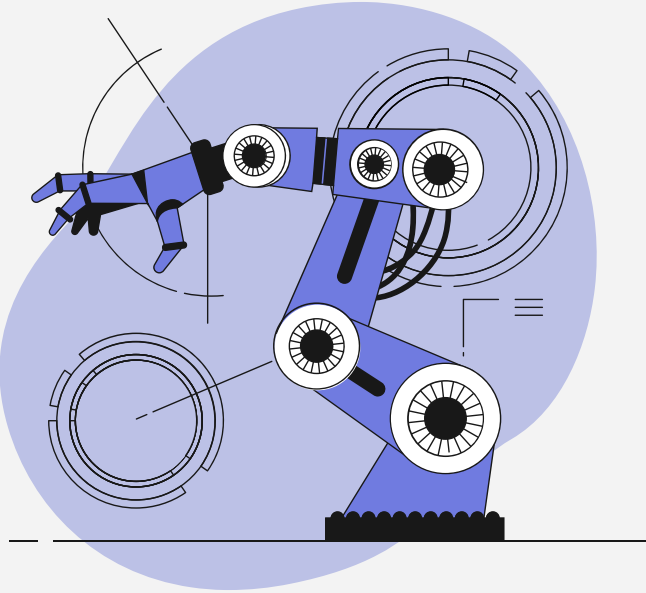
Risks

- Data privacy and security vulnerabilities
- Algorithm bias or errors in decision-making
- Over Reliance on AI over human judgment
- Job displacement or shifting responsibilities
- Lack of transparency (black-box systems)
- PMs may overly rely on AI-generated recommendations.
- AI tools can create legal/ethical risks if not properly vetted.

Impact on Organizational Project

1. **Project Planning:** Improved estimates via predictive analytics
2. **Execution:** Automation tools reduce manual work
3. **Monitoring & Control:** Real-time tracking, anomaly detection
4. **Decision-making:** Data-driven suggestions
5. **Risks:** PMs must upskill; over-reliance on tools; need for data quality

Example: A construction firm used AI to predict scheduling delays, improving project delivery accuracy by 20%. PMs adjusted resource plans based on those insights.

Key Considerations for Project Managers
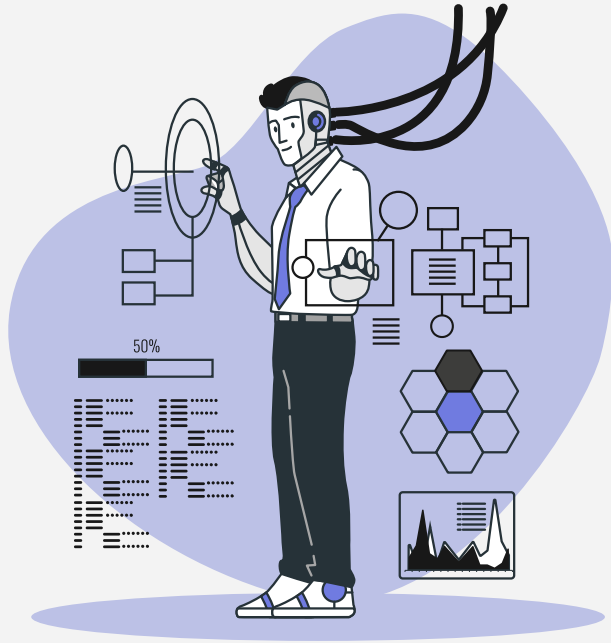
- Stay updated with AI trends/tools

- Evaluate AI vendor reliability

- Understand ethical implications of AI use

- Ensure data quality & transparency

- Encourage team training on AI tools

Conclusion

AI and machine learning are reshaping project management by streamlining planning, execution, and monitoring. To stay ahead, project managers must prioritize data quality, ethical use, and ongoing team training. Success lies in using AI as a powerful tool—while still relying on human judgment to make well-rounded, strategic decisions.

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