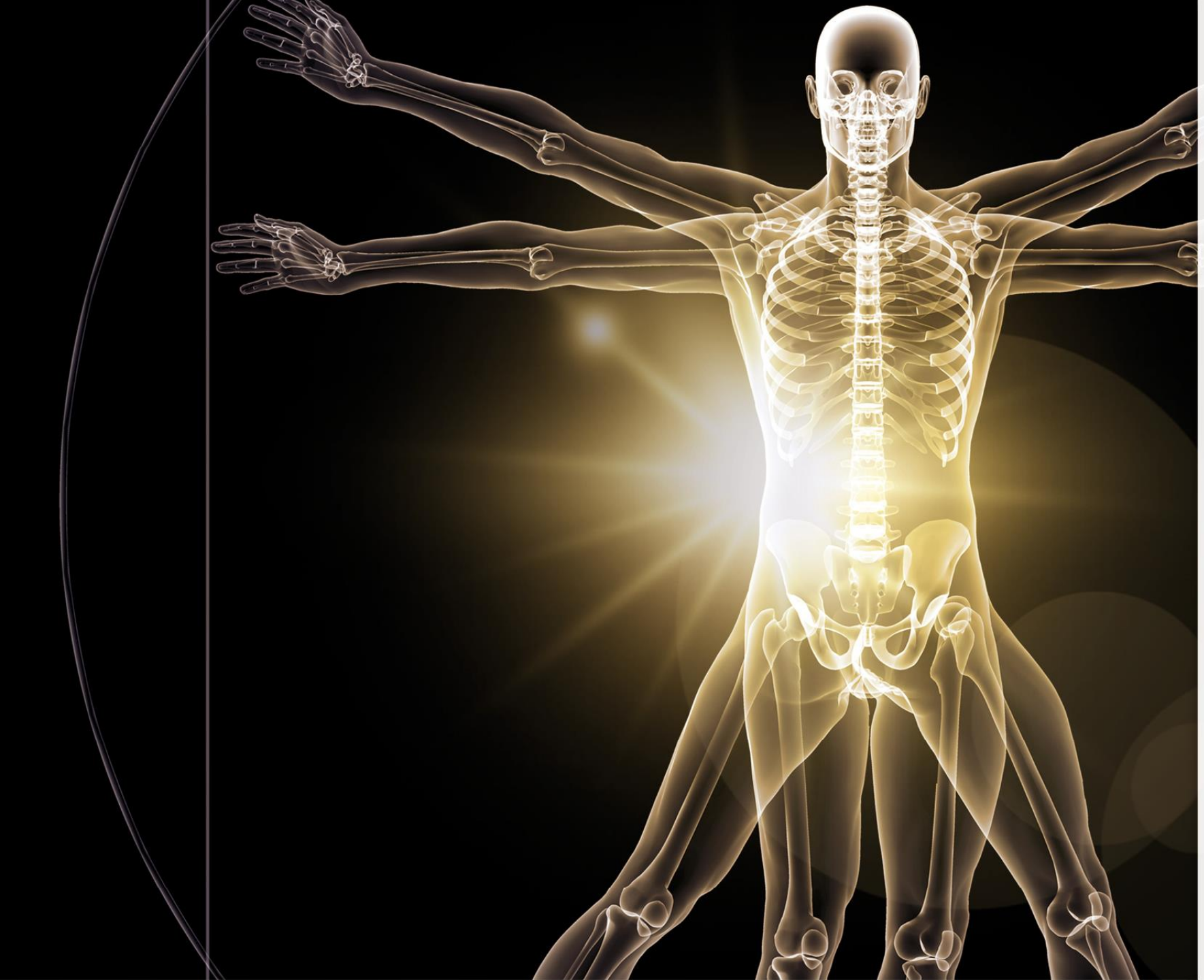


IS3R 2023

Berlin/Germany

August 24–26, 2023

AI discussion

Elizabeth Morris

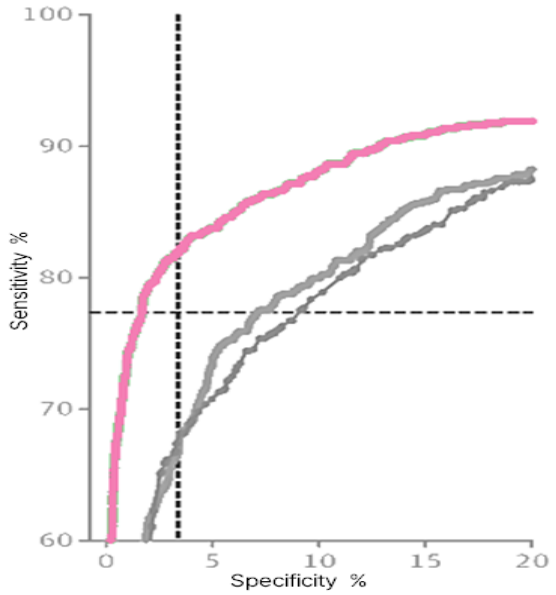
UC Davis

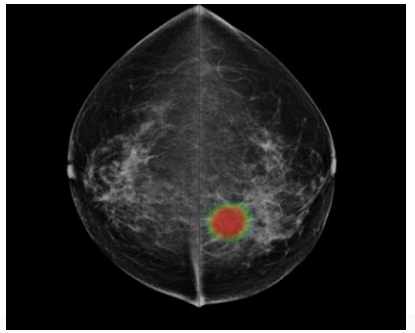
ChatGPT

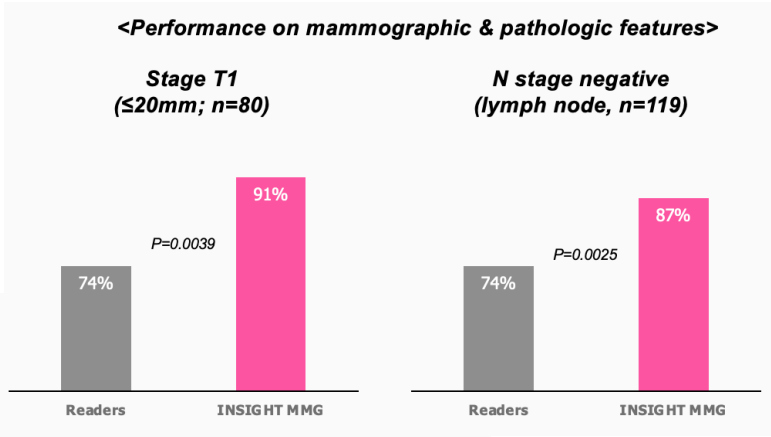
1. **Appropriateness**:
    1. Reflection: AI can help ensure the appropriate use of imaging studies by providing **decision support** to physicians, reducing unnecessary tests.
    2. Proposed Metrics: Percentage **reduction in unnecessary imaging tests, rate of adherence to evidence-based guidelines**.
2. **Quality**:
    1. Reflection: AI can enhance **diagnostic accuracy and consistency** by identifying subtle abnormalities that may be missed by human radiologists.
    2. Proposed Metrics: **Increase in sensitivity and specificity rates, reduction in missed diagnoses, comparative analysis of AI-assisted vs. human-only interpretations.**
3. **Service**:
    1. Reflection: AI can **expedite the interpretation process**, leading to faster results and reduced waiting times for patients.
    2. Proposed Metrics: **Average time from image acquisition to report generation, patient satisfaction surveys regarding waiting times**.
4. **Cost**:
    1. Reflection: AI could potentially **reduce costs** by improving diagnostic accuracy, avoiding unnecessary tests, and optimizing resource allocation.
    2. Proposed Metrics: **Cost savings per patient due to reduced repeat imaging, comparison of overall healthcare expenditure with and without AI integration.**
5. **Waste**:
    1. Reflection: AI can **minimize wastage** of resources by ensuring appropriate testing, reducing the need for repeat imaging, and improving resource utilization.
    2. Proposed Metrics: **Reduction in repeat imaging rates, decrease in resource wastage, analysis of instances where AI led to avoiding redundant procedures.**

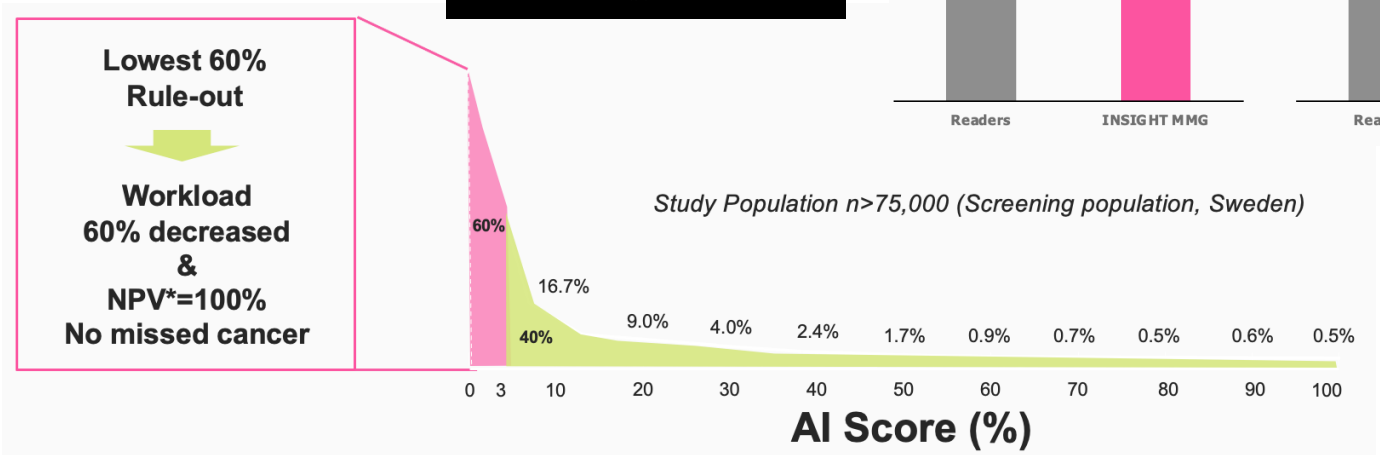
Lunit breast cancer detection algorithm

	Appropriateness	Quality	Service	Cost	Waste
	5	5	4?	?	?



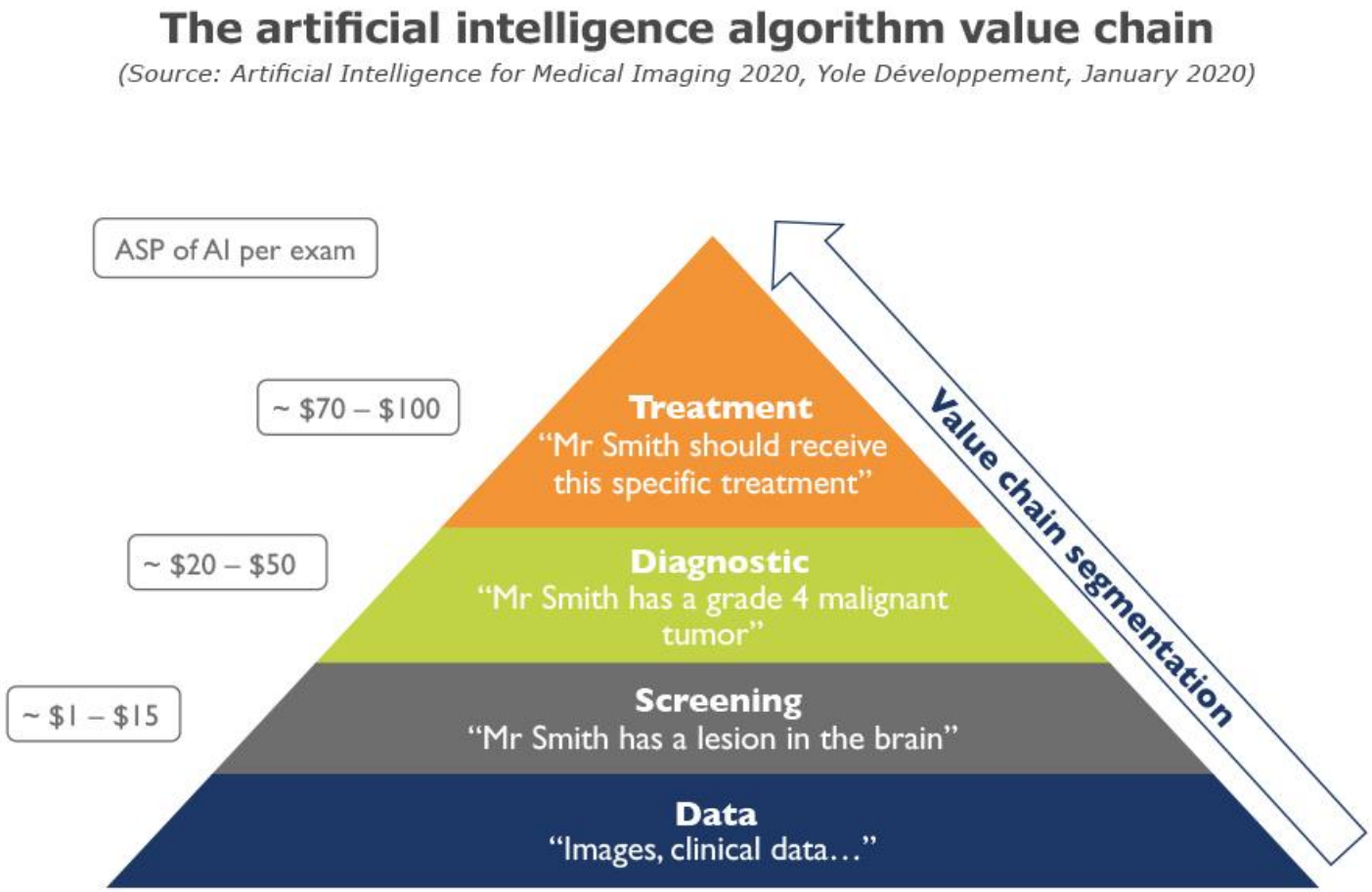


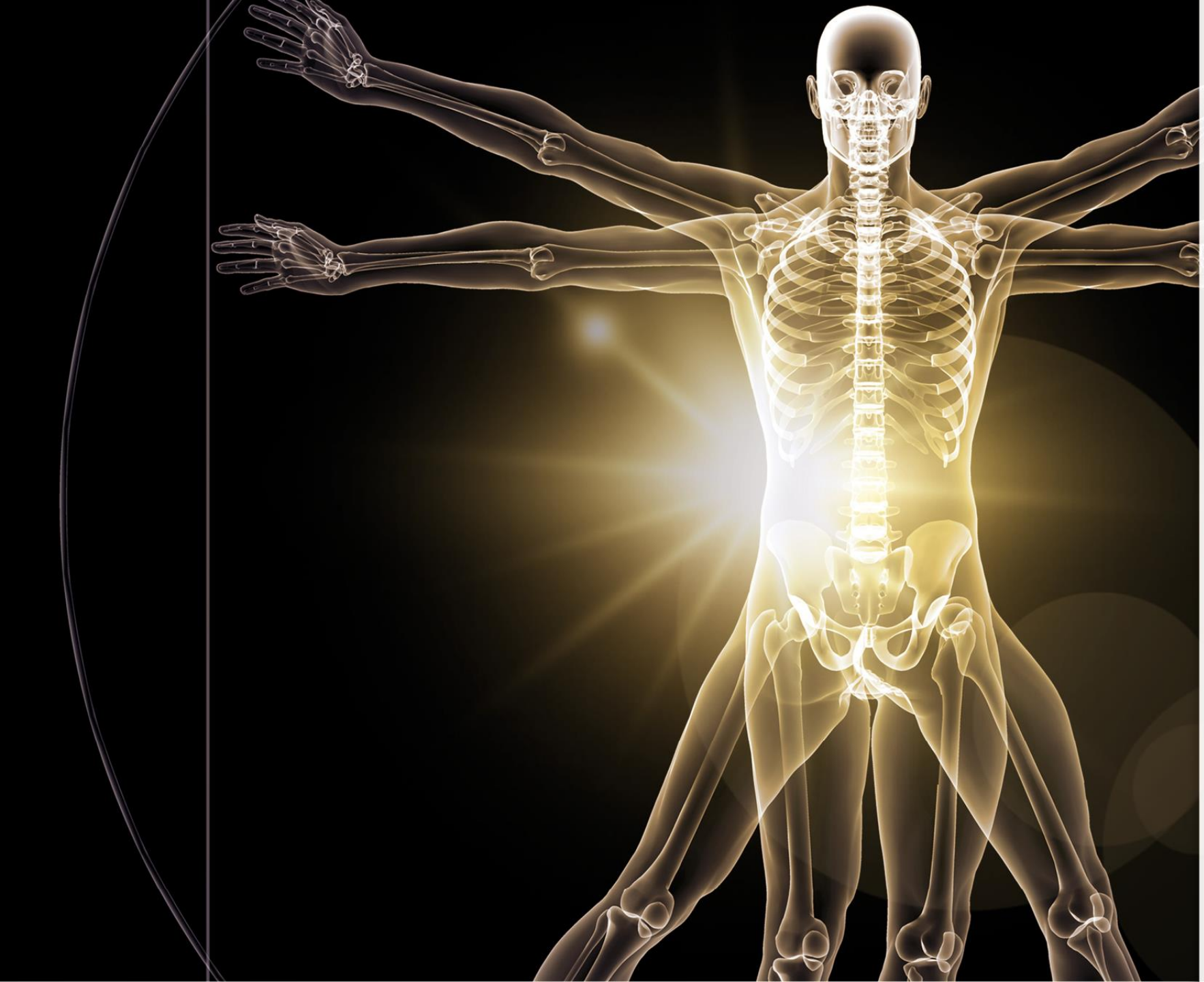




Additional Points

- Algorithm Drift
  - Consistent validation
  - Changes in protocols/machines
  - Test algorithm on your population
- Cost
  - Department v Enterprise IT
  - Separate v bundled
  - Value based v FFS
- Human implications
  - Trust by radiologist/patient
  - Perceived loss of “art” in radiology





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