

### Task 3 – Human-AI Collaboration Case Study

**Deliverable:** 300-word analysis

#### ◆ Case Study: AI in Clinical Decision Support

Human-AI collaboration in healthcare ensures that doctors remain central to patient care while leveraging AI for speed and precision. In clinical decision support, AI can analyse vast patient datasets, imaging scans, and lab results to provide diagnostic suggestions. However, final responsibility rests with the clinician.

For example, an AI model may predict the likelihood of heart disease based on ECG and lifestyle data. The doctor uses this prediction as **decision augmentation**, not replacement. Benefits include reduced workload, faster diagnosis, and early interventions.

Challenges include:

- **Bias & fairness:** If training data is skewed, predictions may favor certain groups.
- **Trust:** Doctors must validate AI outputs, avoiding blind reliance.
- **Transparency:** Black-box AI can create uncertainty.

A collaborative framework should ensure AI recommendations are interpretable (XAI techniques like SHAP/LIME) and that humans can override decisions. This preserves **accountability, ethics, and patient safety**.