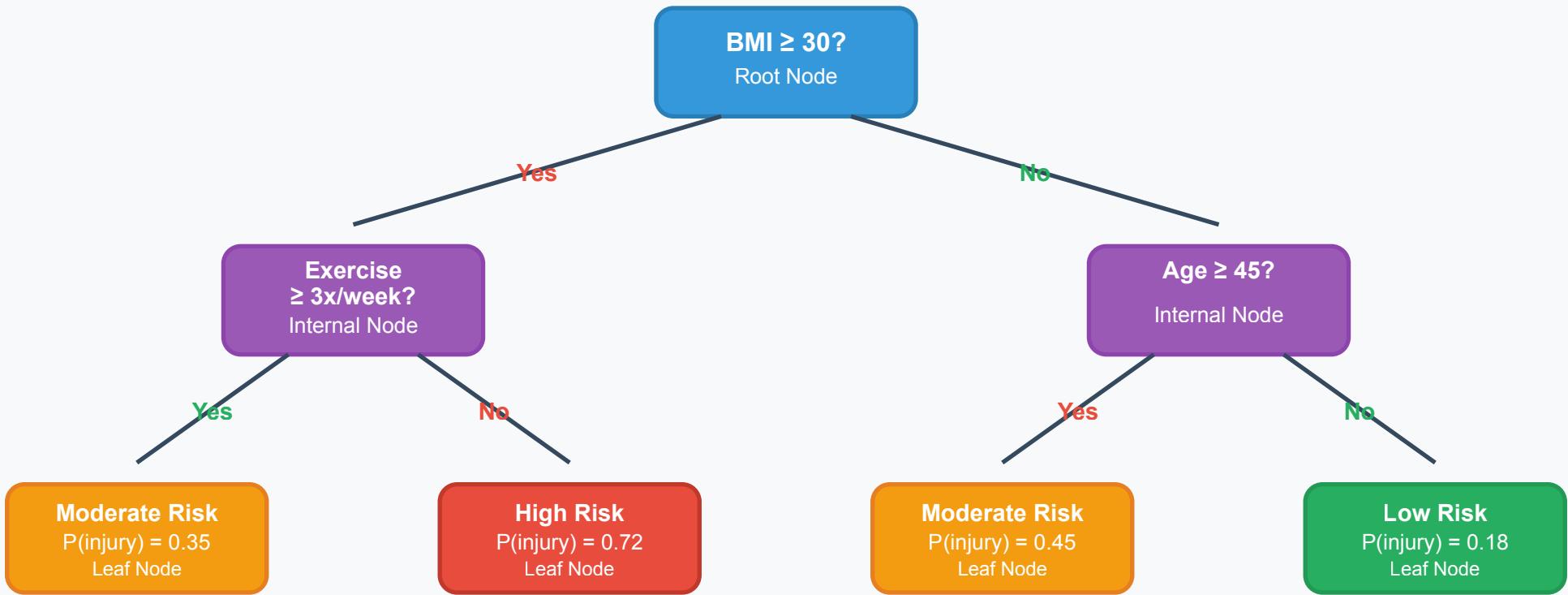


Injury Risk Prediction - Decision Tree



Bioengineering Decision Tree Legend

- Root Node: Primary risk factor assessment (BMI)
- Internal Node: Secondary factor evaluation
- Low Risk: $P(\text{injury}) < 0.3$
- Moderate Risk: $0.3 \leq P(\text{injury}) < 0.6$
- High Risk: $P(\text{injury}) \geq 0.6$

Example Decision Path:
 $\text{BMI} \geq 30? \rightarrow \text{No} \rightarrow \text{Age} \geq 45? \rightarrow \text{No} \rightarrow \text{Low Risk}$
(Normal BMI, younger age = 18% injury probability)

Bioengineering Variables:

- BMI: Body mass index (kg/m^2)
- Exercise frequency: Physical activity level
- Age: Physiological aging factor
- Outcome: Probability of musculoskeletal injury