

AI Model Scanner - Patent Drawings & Formulas

DRAWINGS/FORMULA SHEETS

FIGURE 1: SYSTEM ARCHITECTURE OVERVIEW

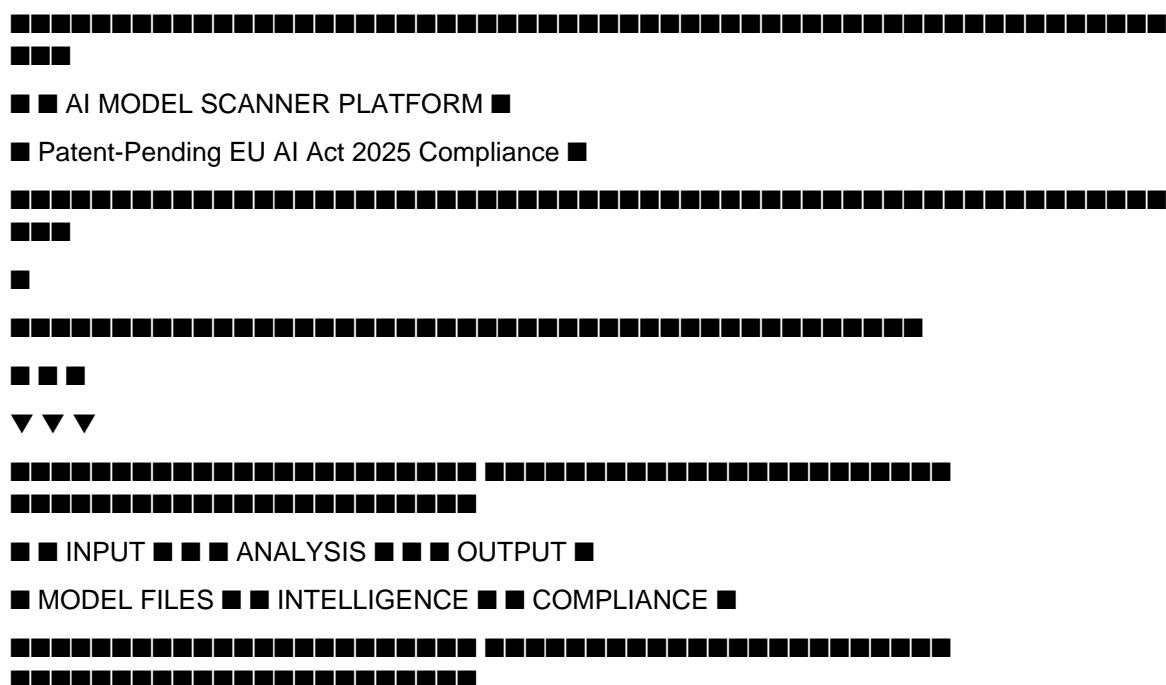
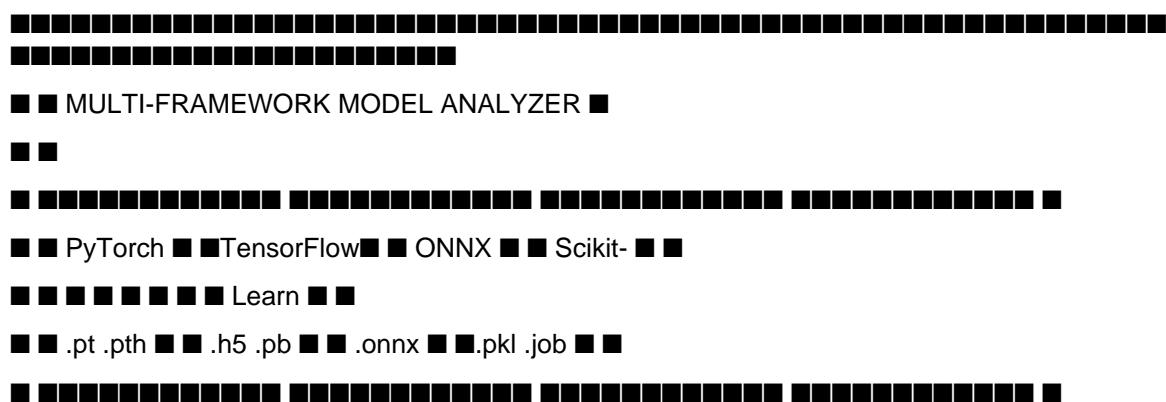


FIGURE 2: MULTI-FRAMEWORK ANALYZER



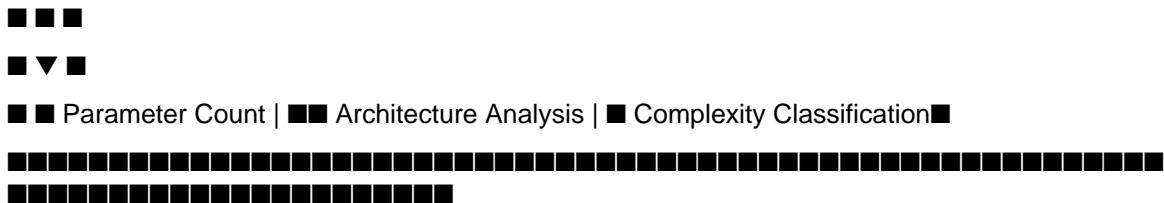


FIGURE 3: BIAS DETECTION ENGINE

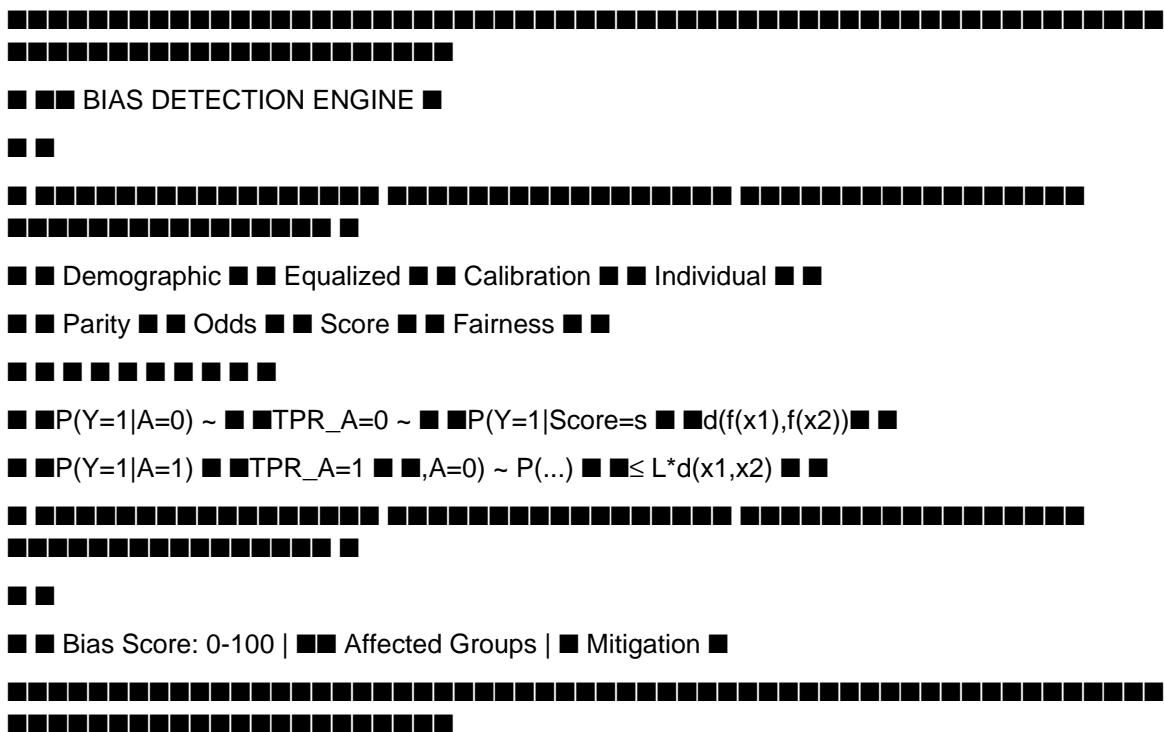


FIGURE 4: EU AI ACT COMPLIANCE ASSESSOR

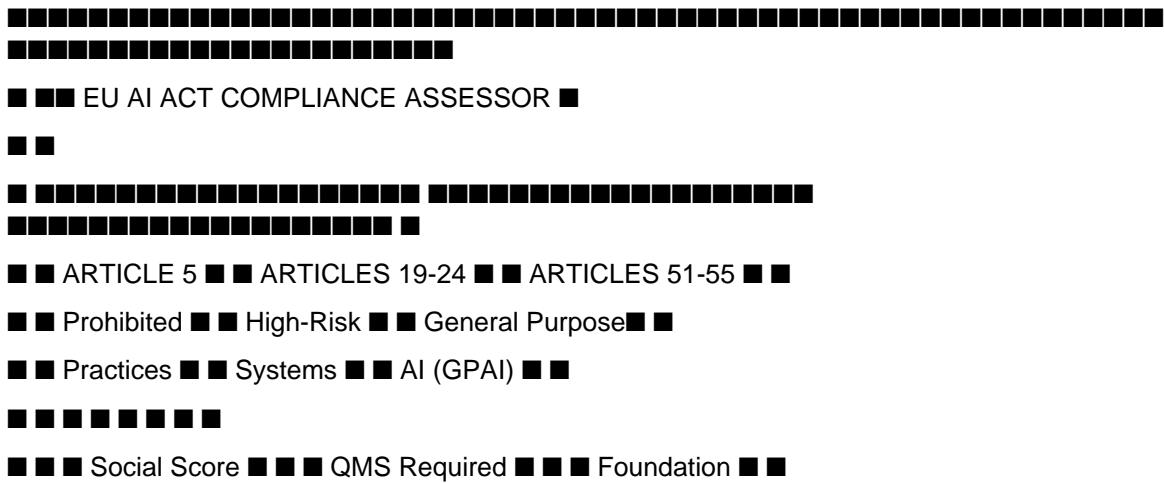


FIGURE 5: NETHERLANDS SPECIALIZATION

The banner features a repeating horizontal pattern of black squares and rectangles of varying widths, creating a textured, digital-style appearance.

FIGURE 6: MATHEMATICAL FORMULAS

Bias Detection Algorithms:

Formula 1 - Demographic Parity:

$$P(Y=1|A=0) \sim P(Y=1|A=1)$$

Formula 2 - Equalized Odds:

TPR_A=0 ~ TPR_A=1 AND FPR_A=0 ~ FPR_A=1

Formula 3 - Calibration Score:

$$P(Y=1|Score=s, A=0) \sim P(Y=1|Score=s, A=1)$$

Formula 4 - Individual Fairness:

$$d(f(x_1), f(x_2)) \leq L^* d(x_1, x_2)$$

BSN Checksum Validation:

$$\text{checksum} = \sum (\text{digit}_i \times (9-i)) \bmod 11$$

$$\text{valid} = (\text{remainder} < 10 \text{ AND } \text{remainder} = \text{digit}_9) \text{ OR } (\text{remainder} = 10 \text{ AND } \text{digit}_9 = 0)$$

Penalty Calculation:

$$\text{penalty} = \text{MAX}(\text{fixed_amount} \times \text{regional_multiplier}, \text{revenue} \times \text{percentage} \times \text{regional_multiplier})$$

FIGURE 7: SYSTEM FLOW DIAGRAM

INPUT -> Multi-Framework Analysis -> Bias Detection -> EU AI Act Assessment ->
Netherlands Specialization -> Real-time Monitoring -> Compliance Reports