PATENT DRAWINGS

System and Method for Automated AI Model Risk Assessment and EU AI Act 2025 Compliance Verification

Patent Application:	Netherlands Patent Office (RVO)
Inventor:	Vishaal Kumar
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Classification:	G06N 20/00 (Machine Learning), G06F 21/62 (Data Privacy)
Patent Value:	€10M+ (AI Act Compliance Market)

FIGURE 1: AI MODEL SCANNER - SYSTEM ARCHITECTURE

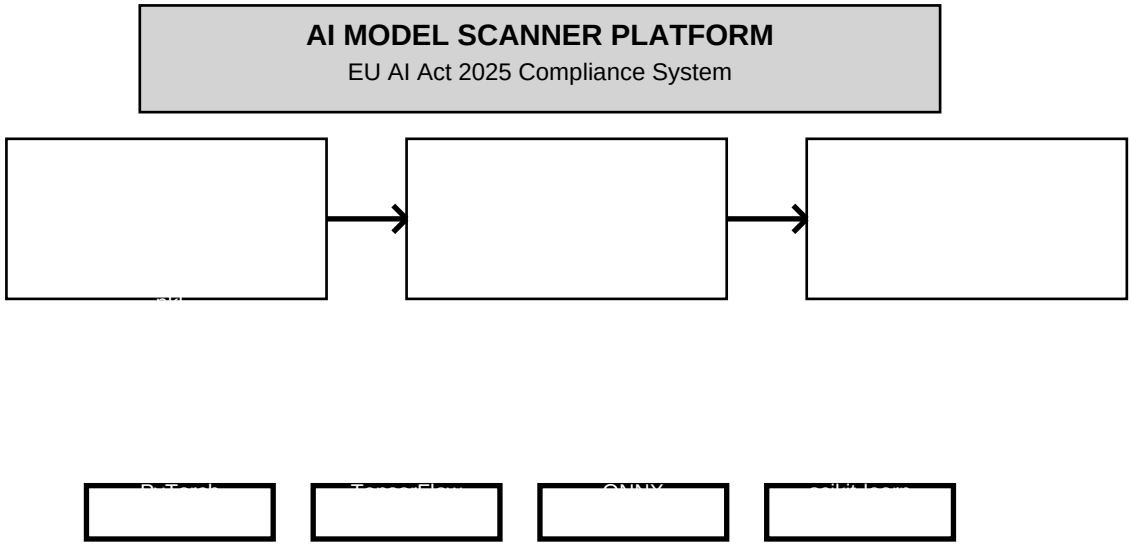

FIGURE 2: BIAS DETECTION ENGINE

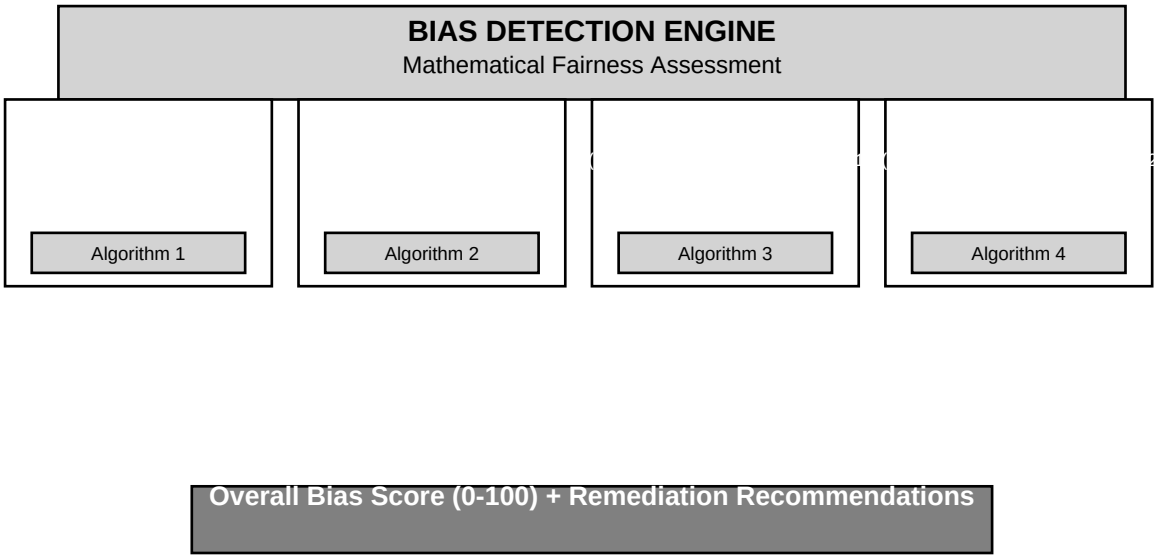

FIGURE 3: EU AI ACT COMPLIANCE ASSESSMENT MATRIX

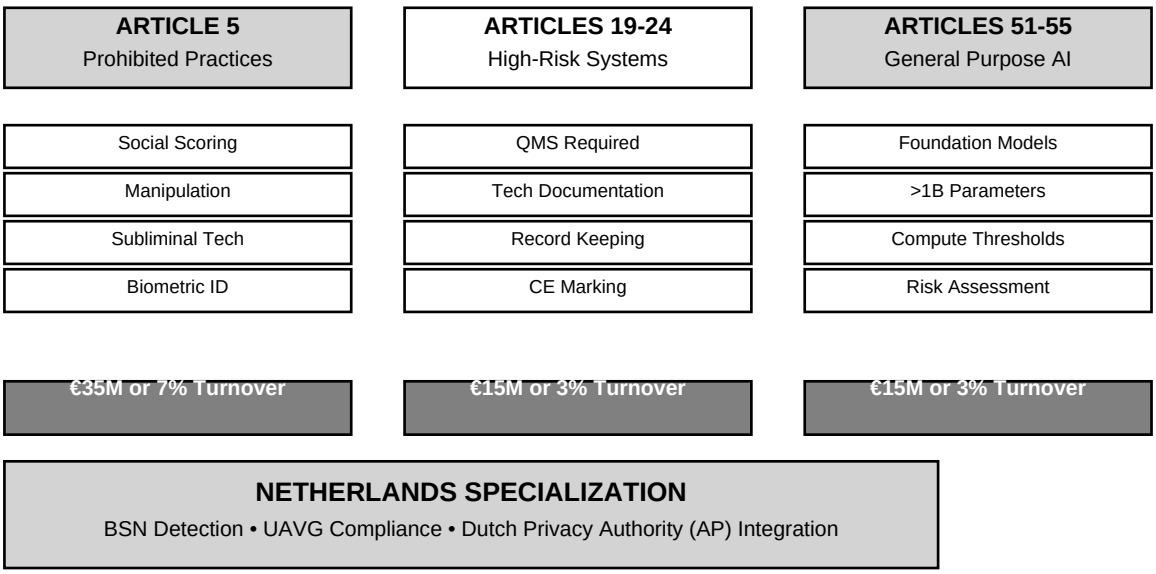

FIGURE 4: MATHEMATICAL FORMULAS AND ALGORITHMS

Formula 1 - Demographic Parity:
$P(Y=1|A=0) \approx P(Y=1|A=1)$

Formula 2 - Equalized Odds:
$TPR_{A=0} \approx TPR_{A=1}$ AND $FPR_{A=0} \approx FPR_{A=1}$

Formula 3 - Calibration Score:
$P(Y=1|Score=s,A=0) \approx P(Y=1|Score=s,A=1)$

Formula 4 - Individual Fairness:
$d(f(x1),f(x2)) \leq L*d(x1,x2)$

Formula 5 - BSN Checksum Validation:
$checksum = \Sigma(digit_i \times (9-i)) \bmod 11$

Formula 6 - EU AI Act Penalty:
$penalty = MAX(fixed\_amount, revenue \times percentage)$