Worm Classification Training Report

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| Visual Verification of Input Data | [Add notes on visual inspection here] |
| Training/Testing Splits | Train: 8691, Test: 2173 (20% test) |
| Input Feature Dimension | Original: 5812 |
| Preprocessing | Median blur, Canny, Otsu threshold, morph (open/close 1), contour filter |
| Shape Features | area, eccentricity, solidity, axis ratio from filtered contour |
| Logistic Regression Parameters | SGDClassifier(loss='log\_loss', alpha=0.01, class\_weight='balanced') |
| Training Time | 36.05 seconds |
| Test Accuracy | 0.6475 |
| Confusion Matrix | [[1040 60]  [ 706 367]] |
| Classification Report | precision recall f1-score support   0 0.5956 0.9455 0.7309 1100  1 0.8595 0.3420 0.4893 1073   accuracy 0.6475 2173  macro avg 0.7276 0.6437 0.6101 2173 weighted avg 0.7259 0.6475 0.6116 2173 |