Statistical Validation Dashboard - Morphogenesis Research Statistical Significance (-log10 p) **Algorithm Performance with 95% CI Effect Sizes Across Phenomena** 0.650 3.0 $\alpha = 0.05$ 0.700 $\alpha = 0.01$ 0.6 0.675 2.5 0.5 0.650 -log10(p-value) Effect Size 0.4 0.3 **Etticiency** 0.625 0.220 0.575 1.0 0.2 0.550 0.093 0.5 0.1 0.525 Delayed Gratification Algorithm Synergy Delayed Algorithm Spatial Scaling Robustness Error Gratification Synergy OrganizationTolerance Effects **Effect Size Distribution Statistical Power Analysis Model Validation Metrics (Normalized)** 0.9 Observed: 0.220 1.0 Power = 0.870 8.0 8.0 60 0.7 Normalized Score 9.0 9.1 Statistical Power 0.5 0.4 Frequency 40 30 0.3 20 0.2 0.2 10 0.1

125

150

0.10 0.15 0.20 0.25

Effect Size

0.00

0.05

0.35 0.40

0.30

25

50

75

100

Sample Size

0.0

 \mathbb{R}^2

RMSE

MAE

AIC

200

175

BIC