Comprehensive Performance Comparison: Custom Indices vs. GeoPandas

Legend: QuadTree, R-Tree, Z-Order, R*-Tree, GeoPandas

Y-axis: Value (Log Scale) [Seconds for Time / MB for Memory]

X-axis: Evaluation Metrics — Build Time (s), Memory (MB), Q1: Point (s), Q2: Poly (s), Q3: k-NN (s)