Some thoughts on discrete non-commutative geometry

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The main ingredient which catalyzes Connes' formulation of non-commutative geometry is Gelfand duality:

Theorem .1 (Gelfand)**.** There is a contravariant equivalence of categories between Top

This duality also has a special case particular to differential geometry

Theorem .2.

Expanding the category $\mathsf{C^*Alg}$ to $\mathsf{C^*Alg}$, the category of all possibly non-commutative C^*-algebras, and attempting to similarly expand $\mathsf{Top_{lc}}$