HOMOTOPY

TOPOLOGY

ORDER

ANALYSIS

A in X, $\exists!$ B to X via f

hTop

$f \sim g$

SES

$\pi_n(X)$

hConvex

LES

$\pi_1(X)$

$X \sqcup Y$

X/Y

FreePolytopes

$\mathbf{Hom_{Convex}}(X, Y)$

$\mathbf{Hom_{Convex}}(\mathrm{I} \times X, Y)$

$X \times Y$

Convex

$f \times g$

Betweenness

$\mathbf{Aut_{Convex}}(X)$

$\mathbf{dim}\ P$

$\mathbf{dim}\ X$

0 – Lin

1 – Lin

2 – Lin

...

$C^k(\mathbb{R}, \mathbb{R})$

$C^k(X, Y)$

Met

LengthMet

Hausdorf

Top

Regular

Compact

$\mathbf{T_1}$

$\mathbf{T_0}$

Manifold

$\mathbf{dim}(X \times Y) = \mathbf{max}(\mathbf{dim}\ X,\ \mathbf{dim}\ Y)$

Net

PreOrd

LinOrd

0 – Measure

Measure

Smooth + Convex

Smooth

$L^p(X)$

$L^\infty(X)$

Uniform

solid line ⟷ defined concept

dashed line ⟷ undefined concept

● color ⟷ important/key

● color ⟷ interesting/relevant

● color ⟷ difficult/troubling

● color ⟷ known/given