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space

$\mathcal{S}_\tau \subseteq (R^d, \cdot)$

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flow
field

$F_\tau : \mathcal{S}_\tau \longrightarrow T\mathcal{S}_\tau$

R^d
d
"dog"

"dog" $\mapsto \vec{v}_{\texttt{dog}} = [\,0.12,\ -0.85,\ 1.03,\ \ldots,\ 0.07\,] \in R^{768}$

"cat"

"cat" $\mapsto \vec{v}_{\texttt{cat}} = [\,0.11,\ -0.87,\ 1.01,\ \ldots,\ 0.09\,] \in R^{768}$

"dog"
"cat"
What
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ℓ_2
ℓ_2
ℓ_2
Close
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gether:
"dog"
"puppy"
"canine"
$\approx$
0.9−
1.2
Far
apart:
"dog"
"quantum"
"economics"
$\approx$
4.7−
5.3
R^{768}
R^{1024}
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flow
field
F_τ
$\mathcal{S}_\tau$

$F_\tau : \mathcal{S}_\tau \longrightarrow T\mathcal{S}_\tau$

$T\mathcal{S}_\tau$
$\mathcal{S}_\tau$
$\dot{a}(t) =$
$F_\tau(a(t))$

$\vec{v}_{\texttt{dog}} = (1.00,\ 1.00,\ 0.00), \vec{v}_{\texttt{puppy}} = (1.10,\ 1.00,\ 0.05).$