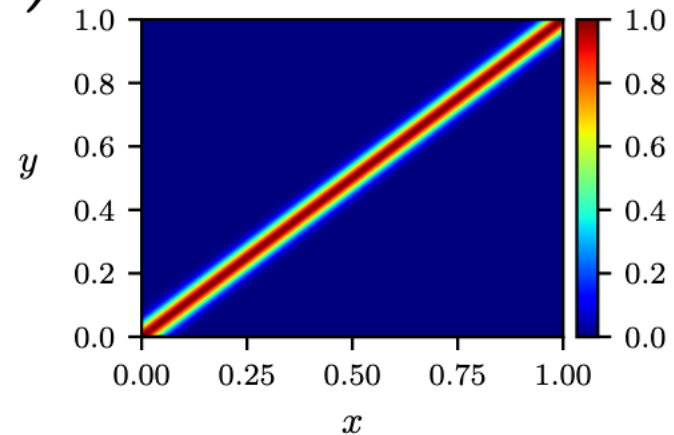
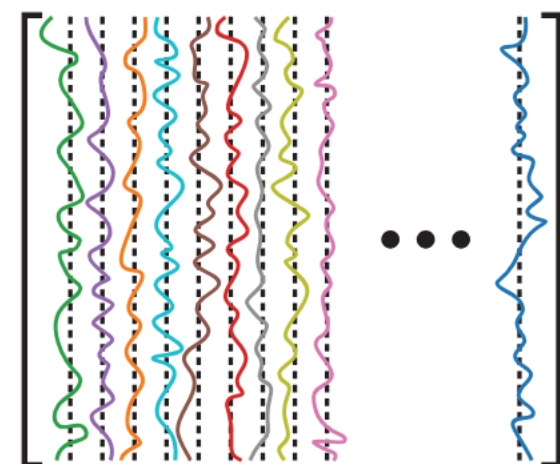


(a) GP covariance kernel



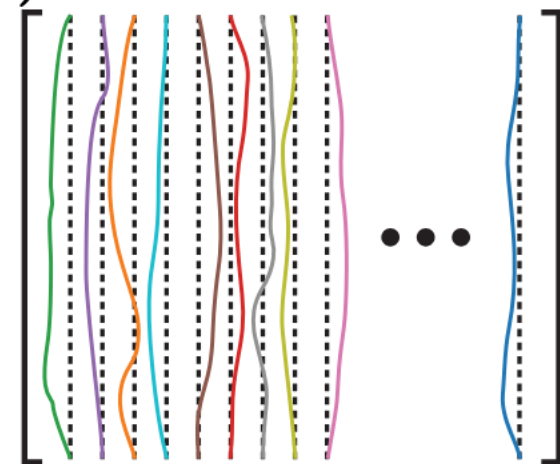
Algorithmically informed
samples from theory

(b)



Source/forcing

(c)



Response

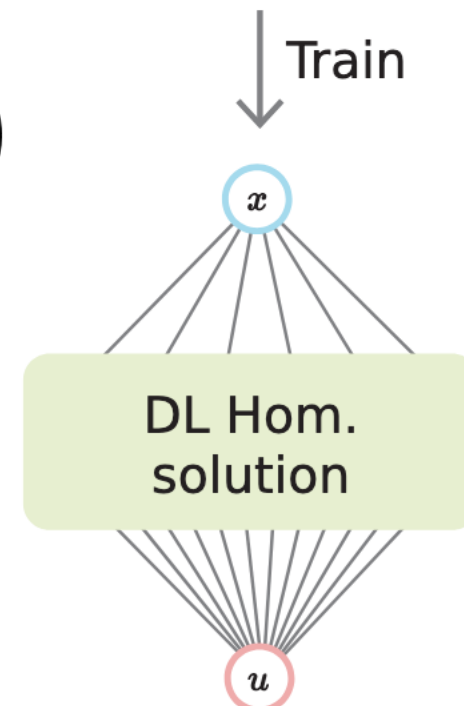
Unknown system
 $\mathcal{L}(u) = f$ on Ω

Boundary
conditions on $\partial\Omega$

(d)

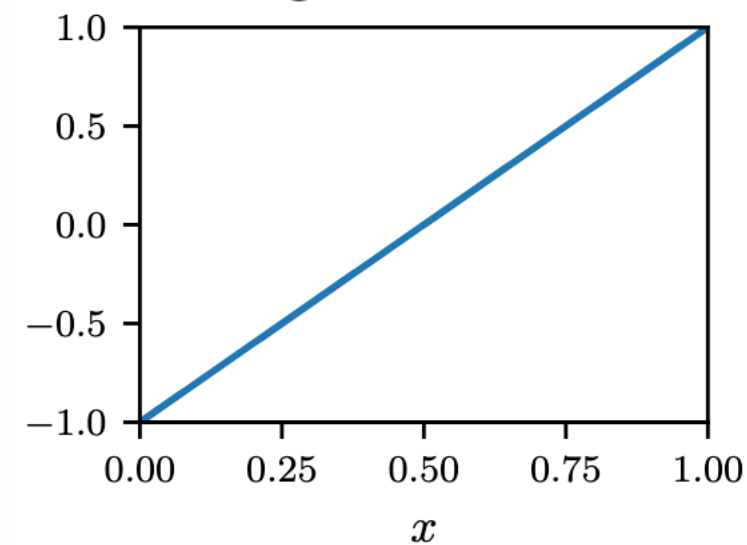
$$\text{Loss} = \frac{1}{N} \sum_{j=1}^N \frac{1}{\|u_j\|_{L^2(\Omega)}^2} \int_{\Omega} \left(u_j(x) - \underbrace{\mathcal{N}_{\text{hom}}(x)}_{\text{DL Hom. solution}} - \int_{\Omega} \underbrace{\mathcal{N}_G(x, y)}_{\text{DL Green's function}} f_j(y) dy \right)^2 dx$$

(e)

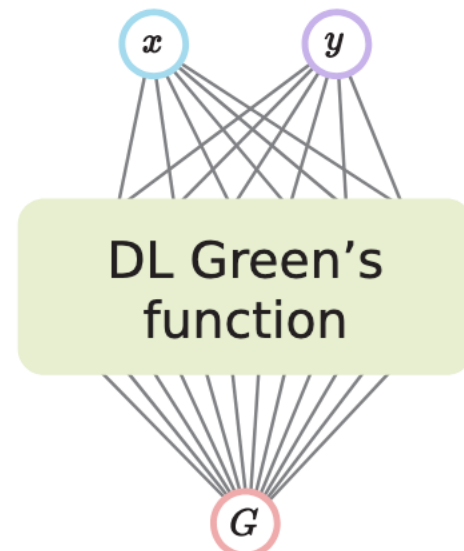


(f)

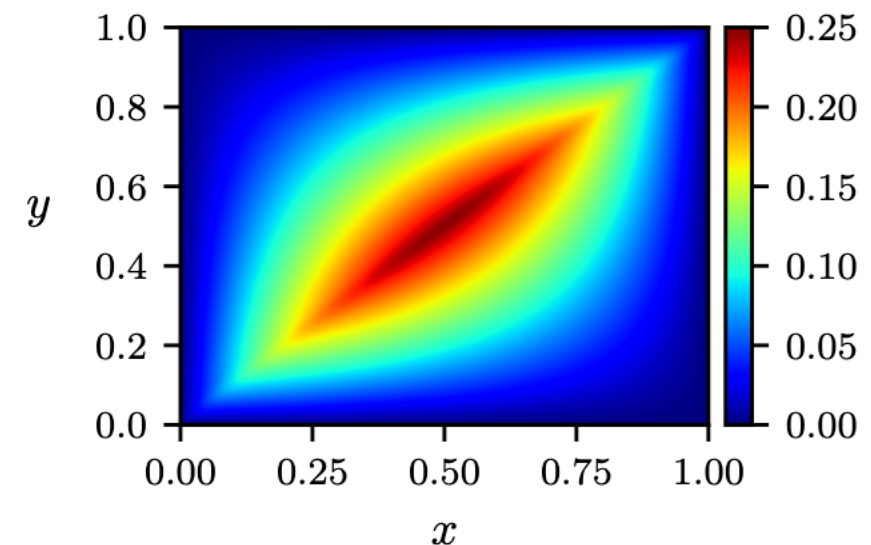
Homogeneous solution



Train



Green's function



Human readable features