

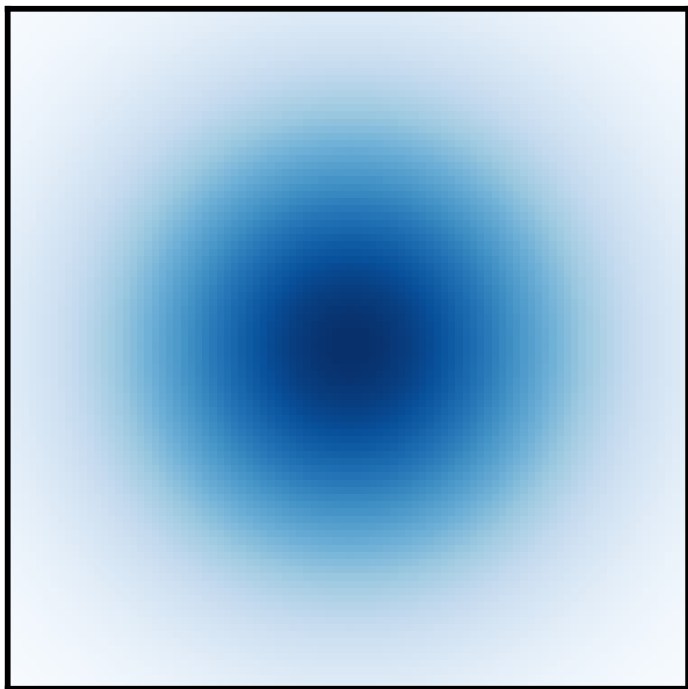
Siddhant Mishra-Sharma (MIT/AI FI) | AI FI Summer School

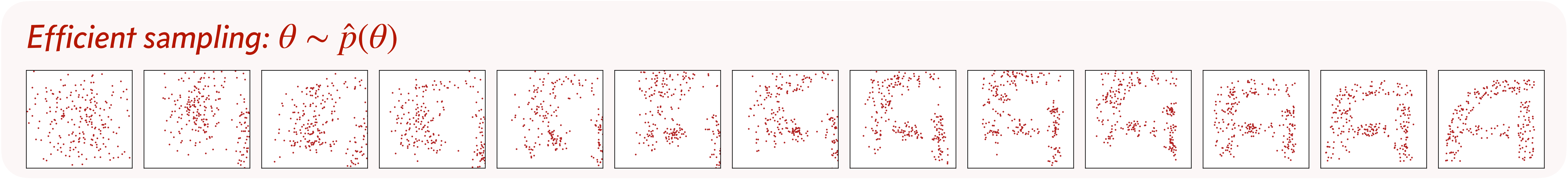
162

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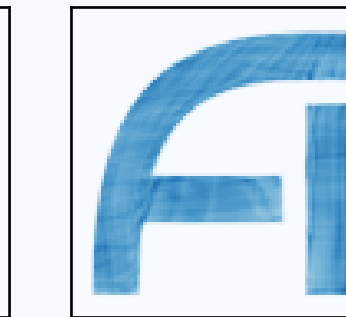
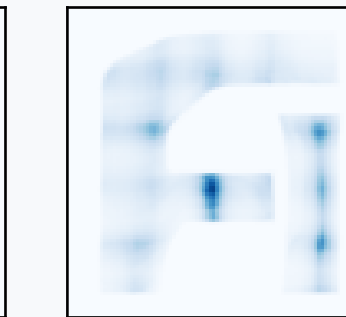
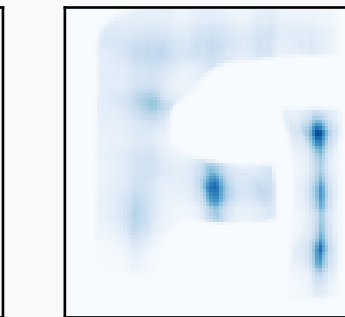
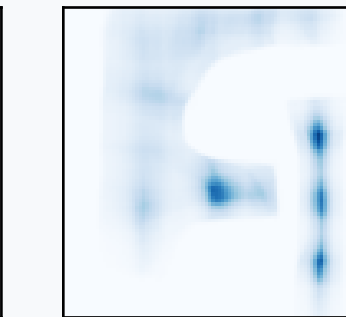
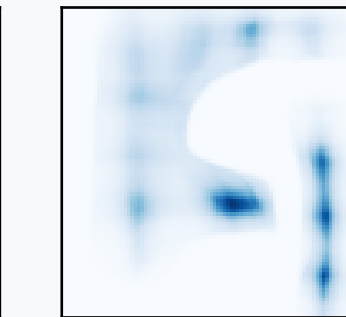
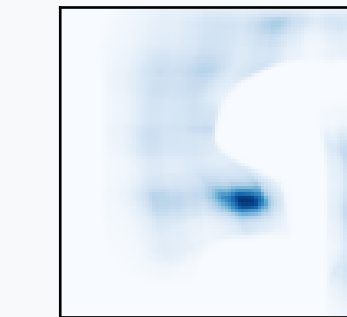
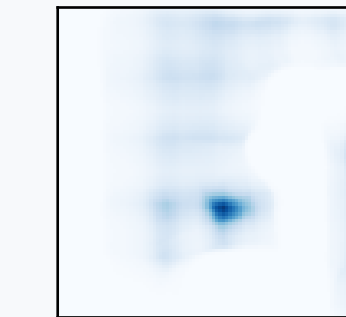
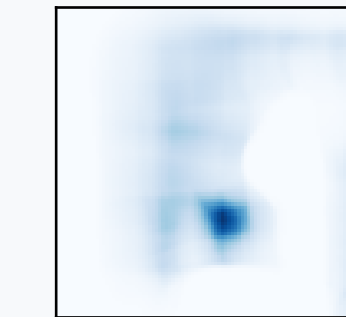
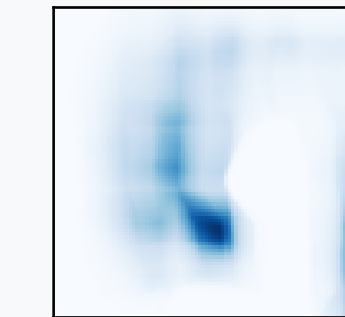
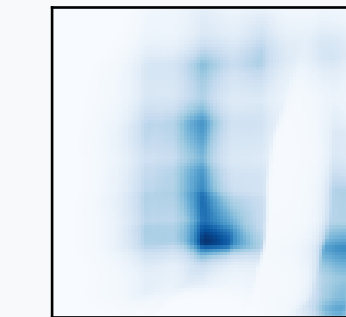
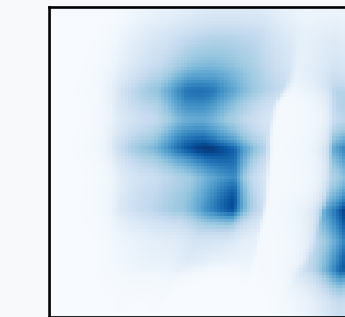
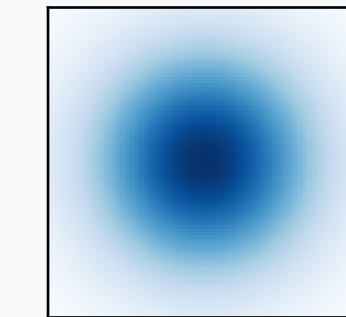
5

Normalizing flows



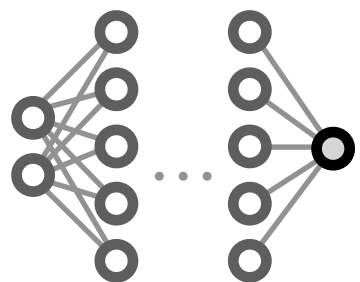


Efficient density estimation: $\log \hat{p}(\theta)$

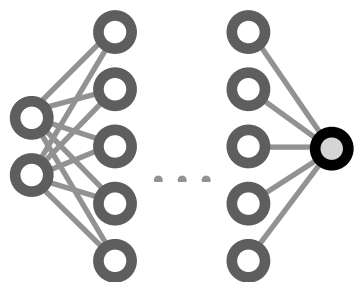


$\pi(v)$

Basedensity



$$\theta = f(u)$$



Target density



One-to-one transformation

Tractable f^{-1} and $\det \nabla f$

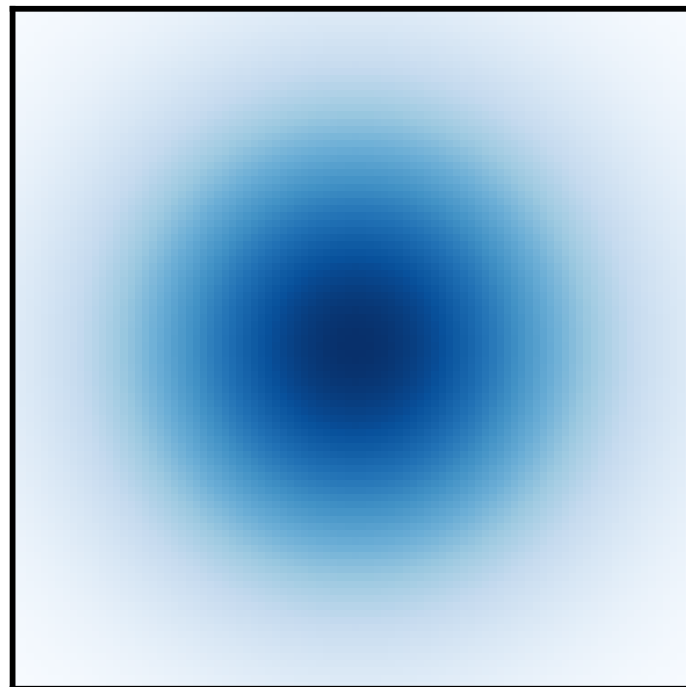
$$p(\theta) = \pi \left(f^{-1}(\theta) \right) |\det \nabla f|^{-1}$$

[Rezende & Mohamed 2015]

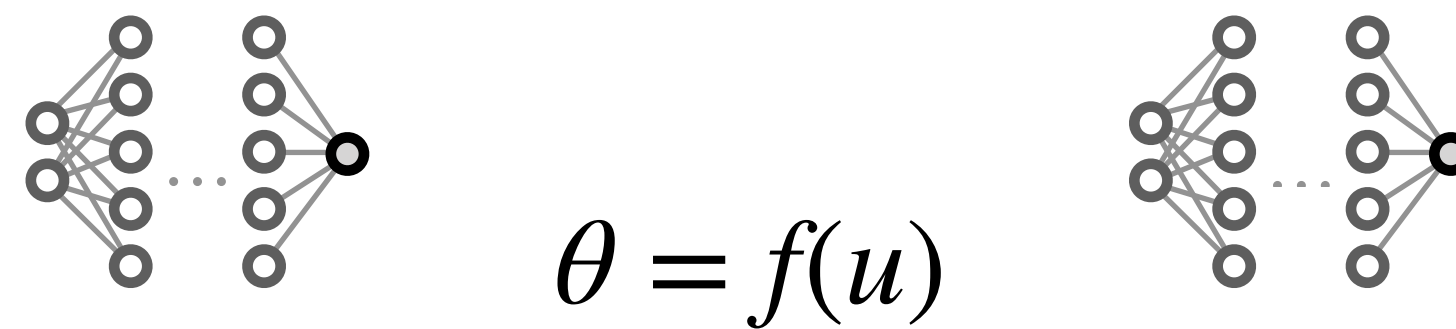


Normalizing flows

Base density



$$\pi(u)$$



$$\theta = f(u)$$

One-to-one transformation

Tractable f^{-1} and $\det \nabla f$

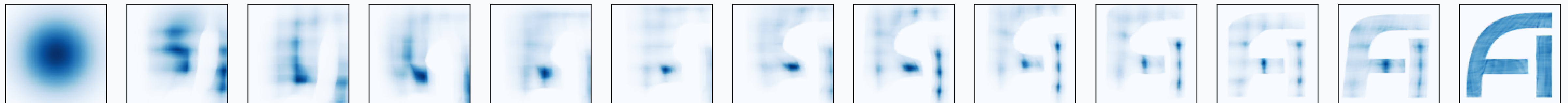
(IAIFI logo)

Target density

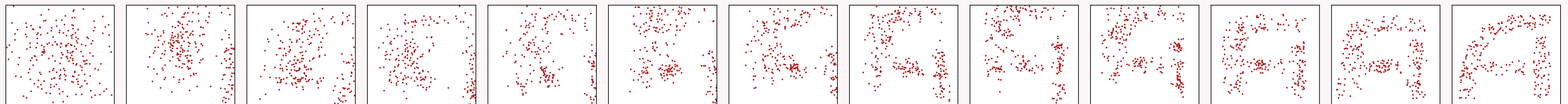


$$p(\theta) = \pi(f^{-1}(\theta)) |\det \nabla f|^{-1}$$

Efficient density estimation: $\log \hat{p}(\theta)$



Efficient sampling: $\theta \sim \hat{p}(\theta)$



Normalizing flows

