- **Mixture:** Given kernels K_1 and K_2 and $\alpha : \mathbb{X} \to [0,1]$

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KERNELS AS BUILDING BLOCKS

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- Algorithmically corresponds to stochastically choosing algorithm

1. Input X
2. Generate $U \sim \mathrm{Uniform}([0,1])$
3. If $U < \alpha(X)$ return $X' \sim K_1(X, \mathrm{d}x')$
4. Else return $X' = K_2(X, \mathrm{d}x')$

- In discrete case corresponds to convex combination

$$(\alpha K + (1-\alpha)K')(x, x') = \alpha_i K(x, x') + (1-\alpha_i)K'(x, x')$$

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INVARIANCE