

	KNN Regression (k-nearest neighbors regression)
Recali	for LR: we have a really strong global assumption about f
	$f(\chi) = \chi \beta$
	>
	e.s. in ID y $ \hat{f}(x) = \beta x $
	preds change by $\hat{\beta}$ as I more along X
	as I more along t
Fur Ben	thermore: traing data affects the fit far away efit: strong global assurption make f practical to find
L NN	
	> k = integer that determines how many "nearby" trains points we consider
Given	trains duta {(\lambda, y_n)}n=1

ENN fits f as $f(\chi) = \frac{1}{k} \sum_{n \in N_k(\chi)} y_n \text{ over } k$ $f(\chi) = \frac{1}{k} \sum_{n \in N_k(\chi)} y_n \text{ over } k$ $f(\chi) = \frac{1}{k} \sum_{n \in N_k(\chi)} y_n \text{ over } k$ Nk(x) = k neighborhood of & = indius of k nearest trains pts to Z for numeric typically vise euclidean R=2 6=4 What happens as me change k? general rule: le contrals the flexibility of the Show complicated of a function of is Small & -> very flexible method
es. k=1 interpolates data le -> very inflexible method es- le = N I just predict y

Comparison W/OLS:
OLS reduces I to a p-din't space.
KNN reduces & to a N/k dim'l space.
as to 1 reduce
as k 1 I reduce The dim of the space (VC dimension Vapnik-Chervonensk) Converse h I increuse the dim
CONNETT by Tincreuse Has die