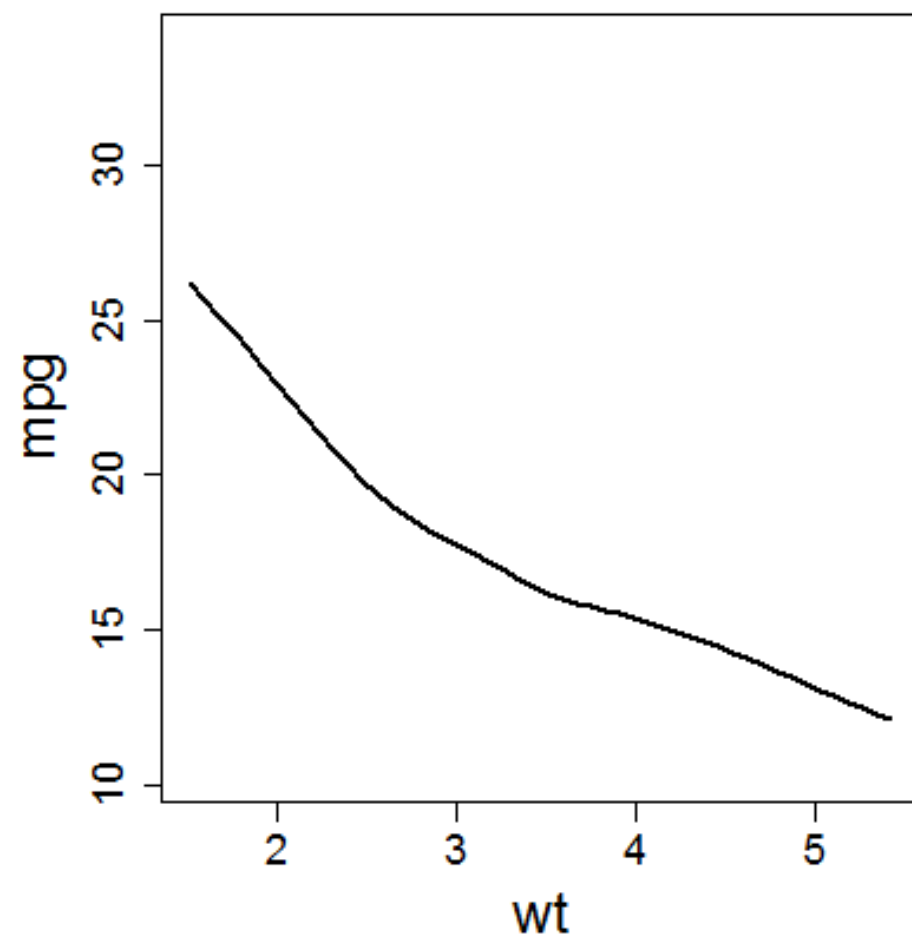
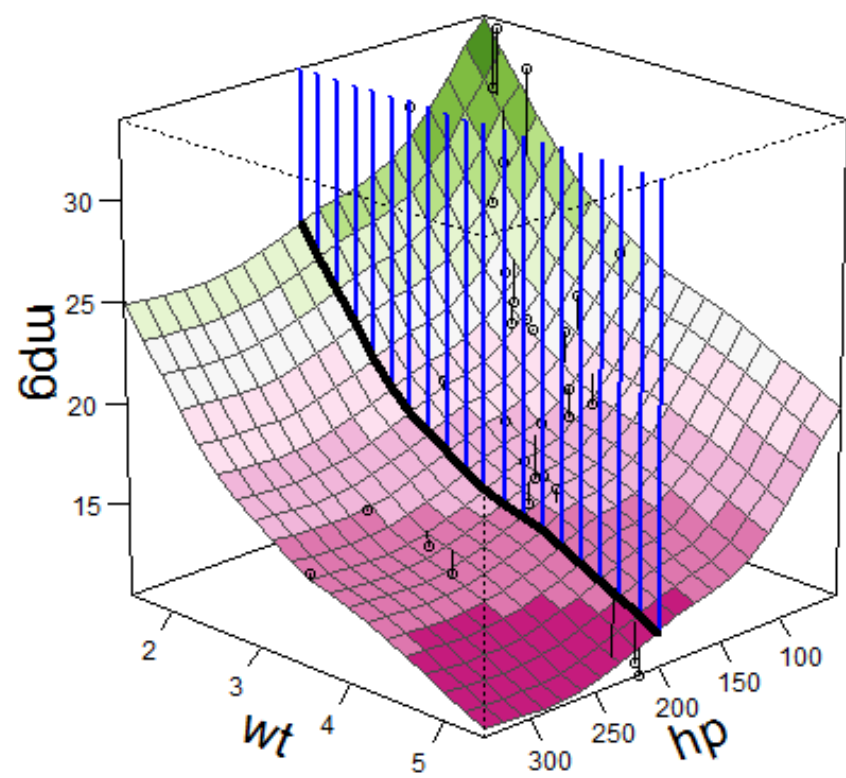


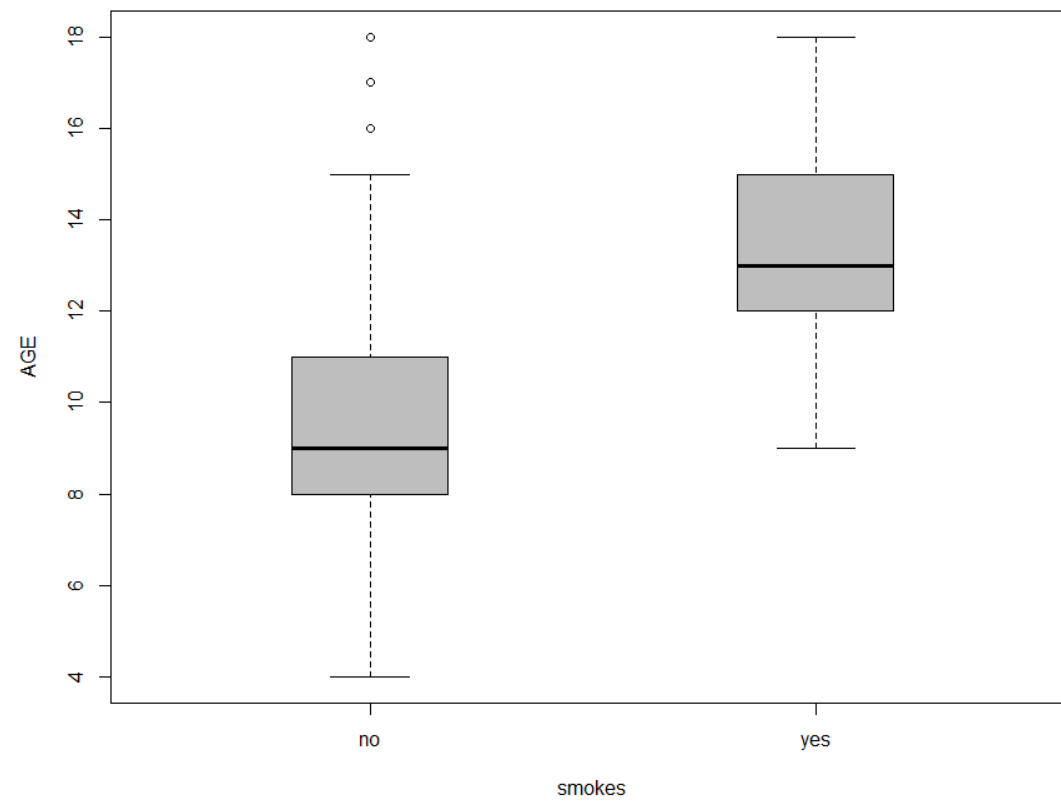
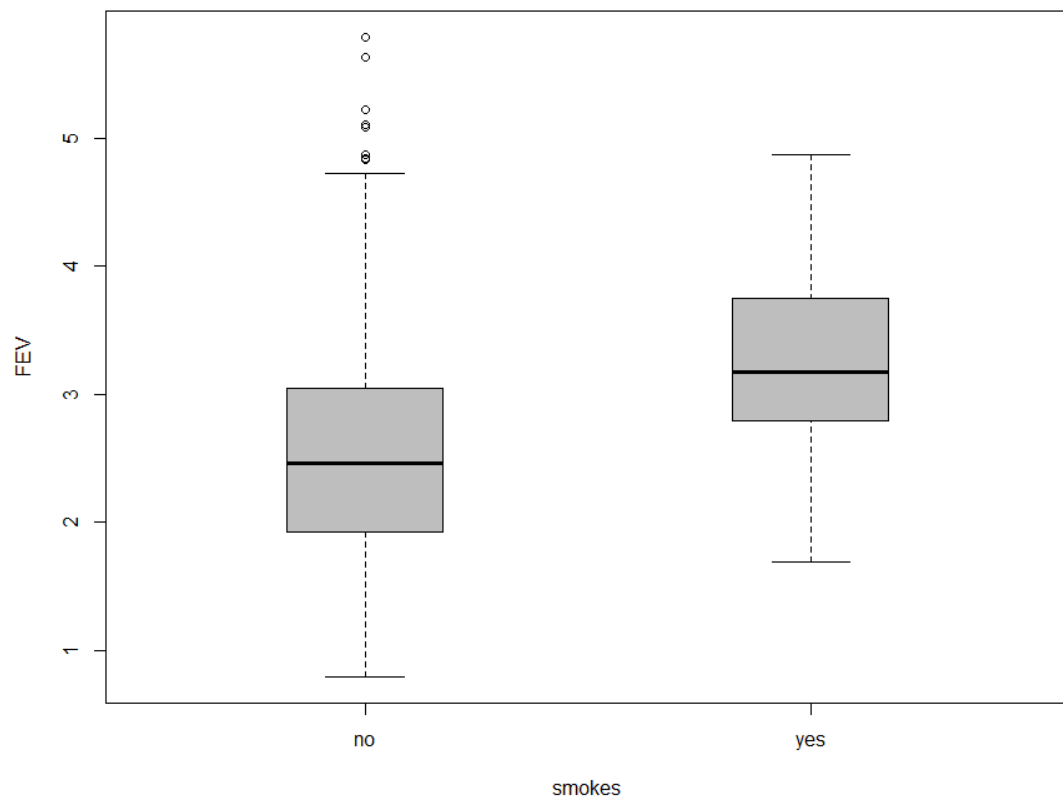
Conditional Visualisation for Statistical Models

AN INTRODUCTION TO THE CONDVIS PACKAGE IN R

MARK O'CONNELL, CATHERINE B. HURLEY, KATARINA DOMIJAN

PRZEMYSŁAW CHOJECKI, KACPER STAROŃ





Given: data,
fitted model object

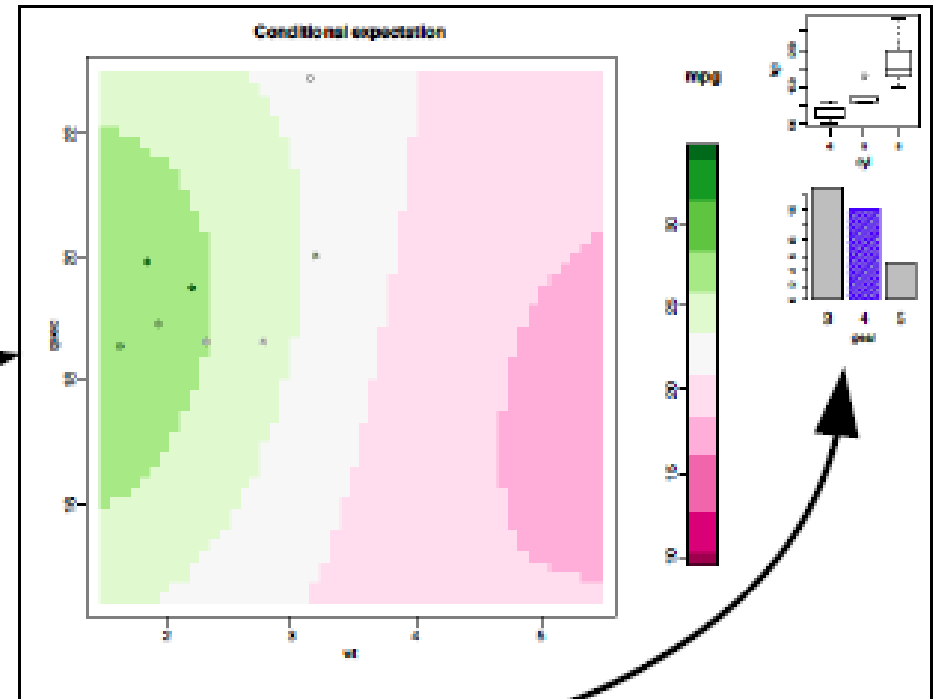


Call `ceplot()`,
choose some options

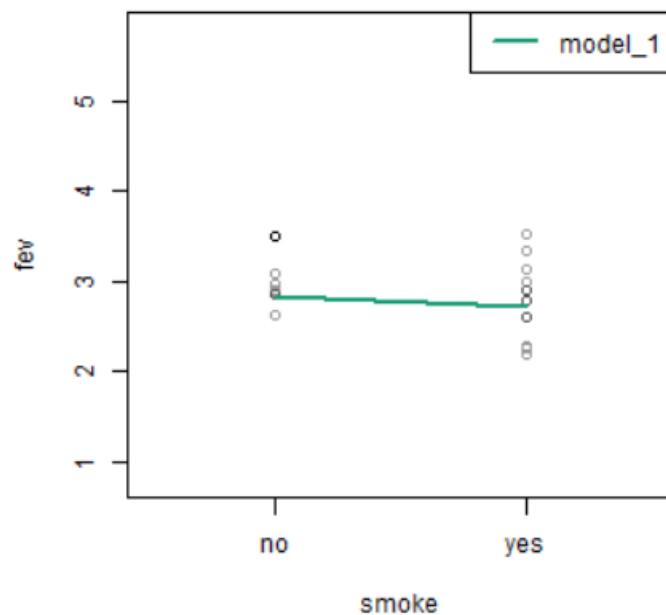


Interact with graphic
to choose sections

creates
graphic



Conditional expectation



Distance threshold:



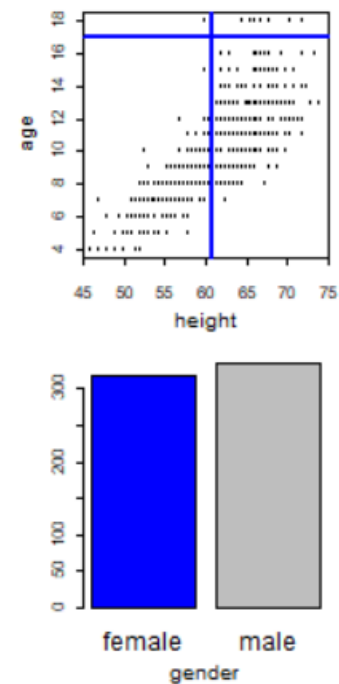
Distance function type:

- ☒ euclidean
- ☐ maxnorm

[Download snapshot \(pdf\)](#)

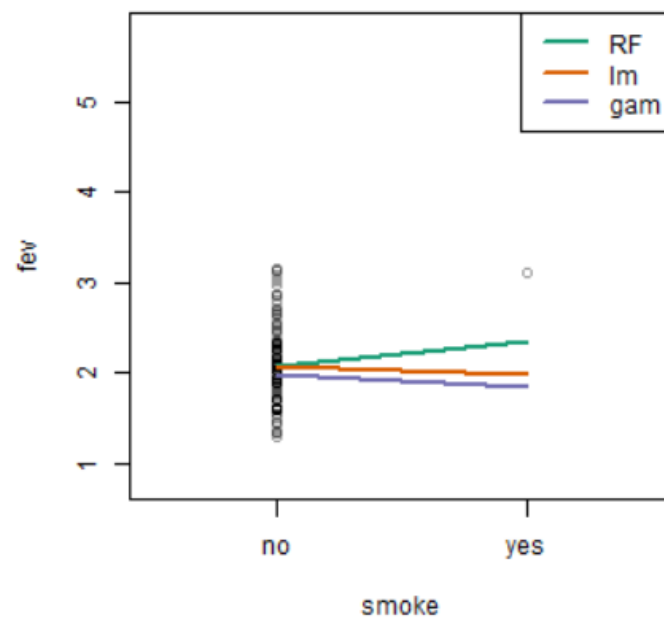
[Deploy app](#)

Condition selectors



age	height	gender
16.97	60.82	female

Conditional expectation



Distance threshold:



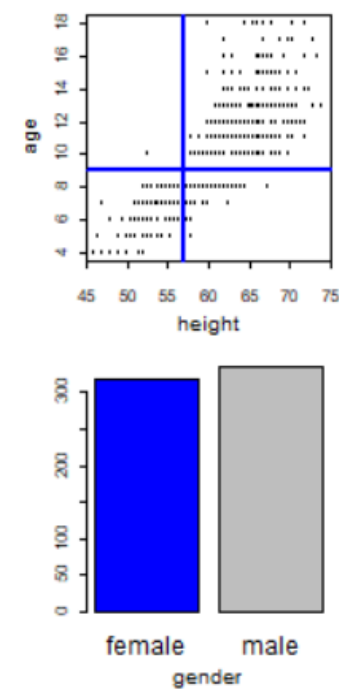
Distance function type:

- ☒ euclidean
- ☐ maxnorm

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[Deploy app](#)

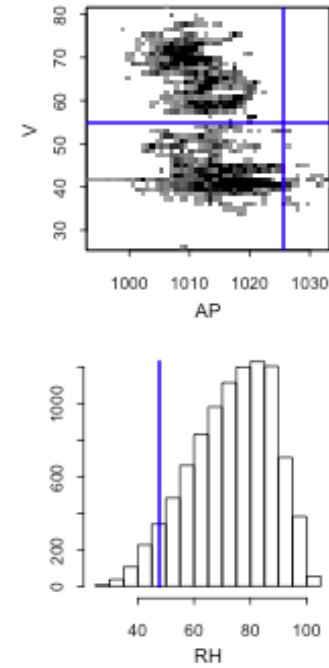
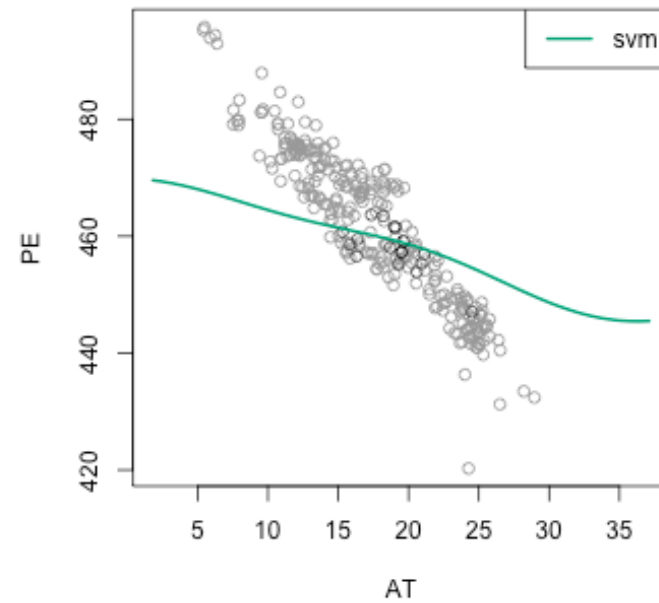
Condition selectors



age	height	gender
9	57.00	female

Conditional expectation

Condition selectors



Distance threshold:



Distance function type:

- ☐ euclidean
- ☒ maxnorm

Download snapshot (pdf)

Deploy app

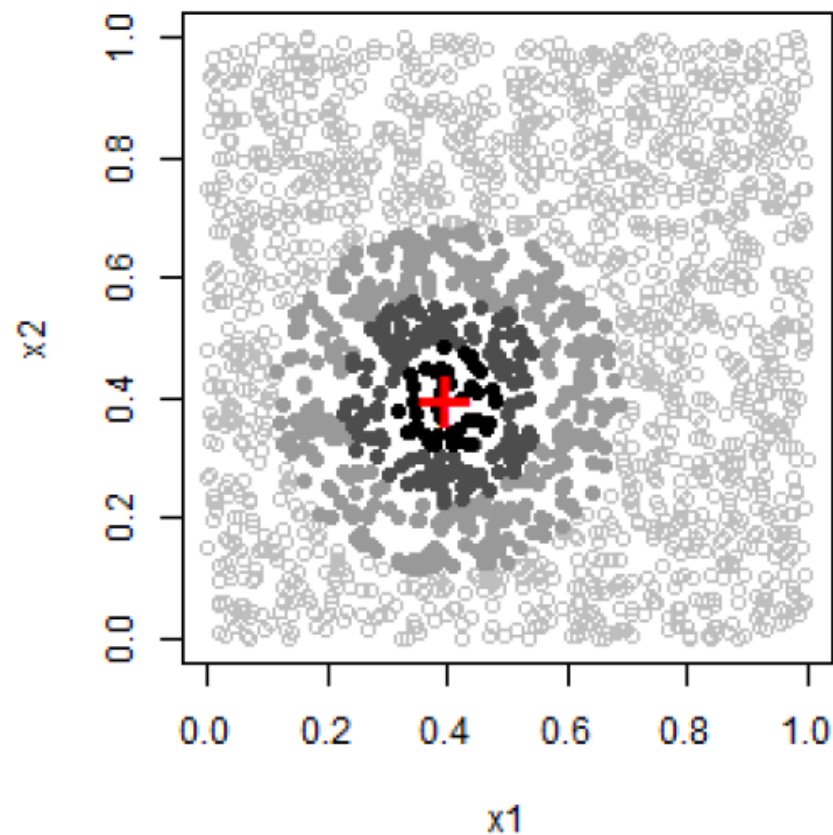
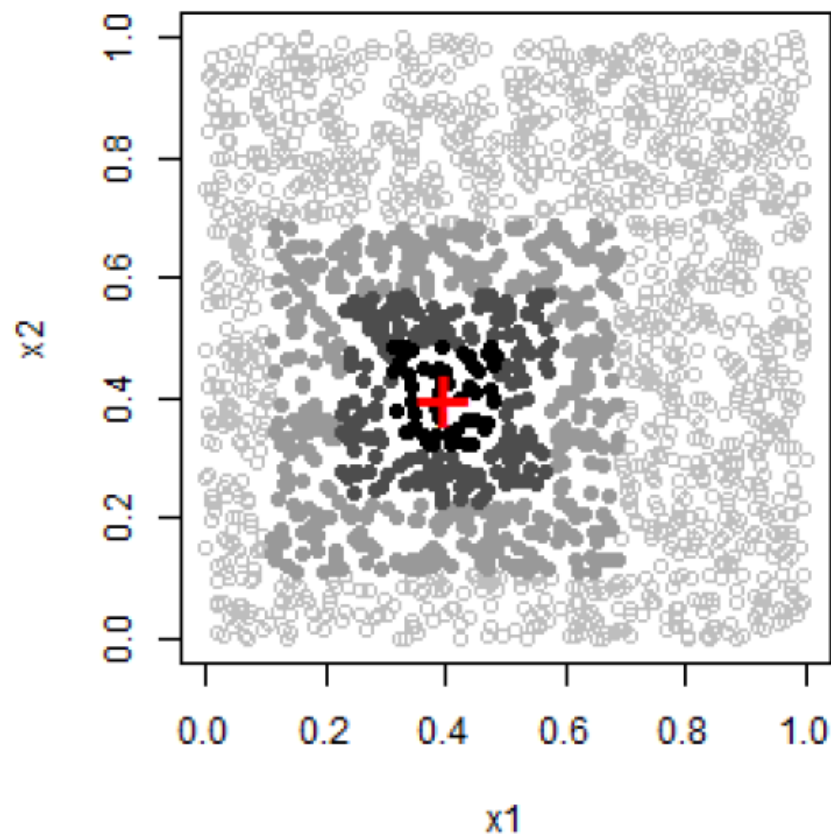
V	AP	RH
54.87	1025.60	47.67

$$d(x_i, x') \\ = \|x_i - x'\|_p + \lambda M(x_i, x')$$

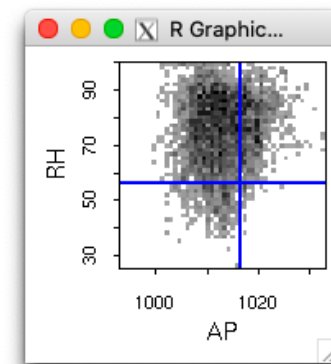
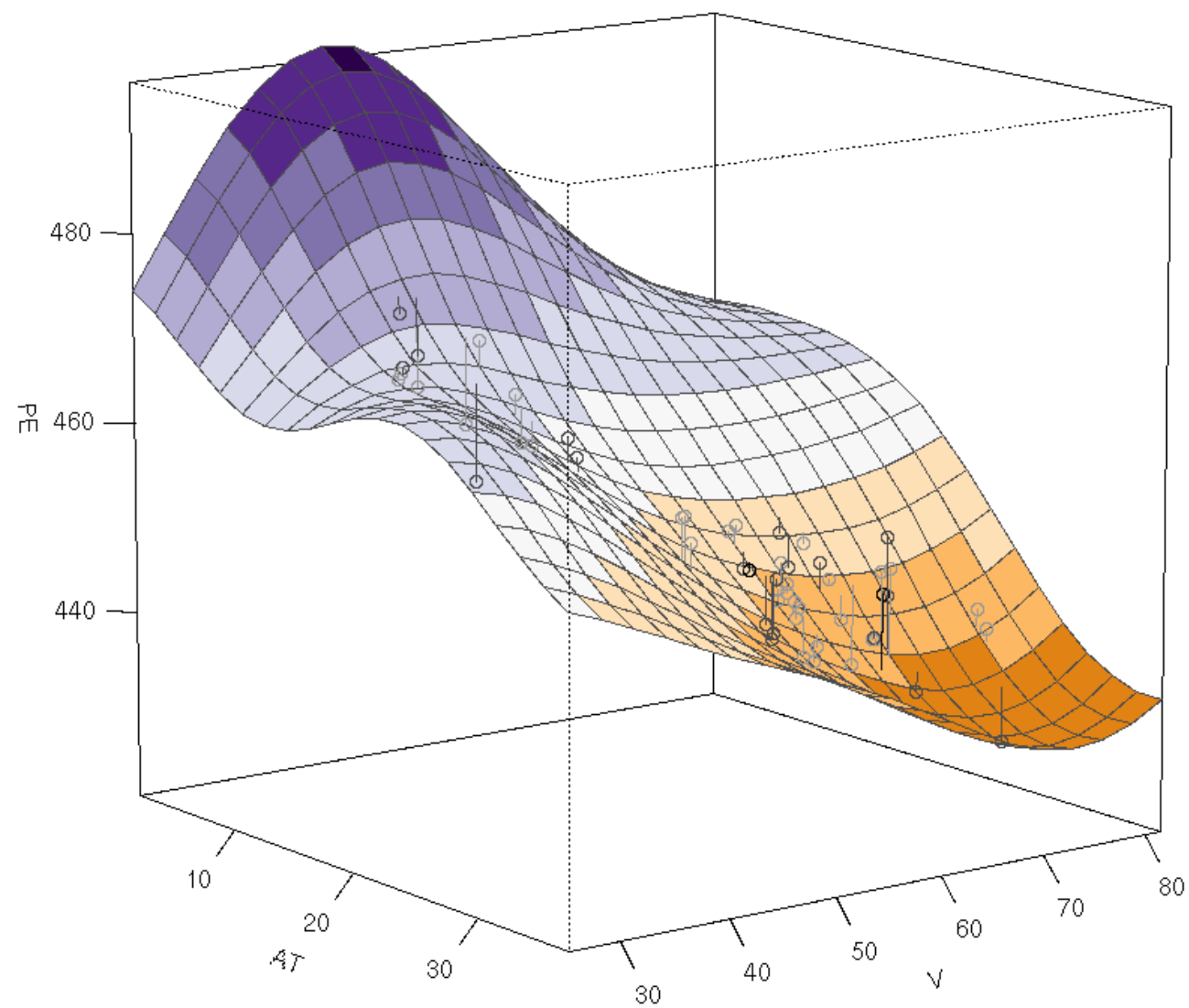
$M(x_i, x')$ – number of mismatches on the categorical elements

λ – scaling constant

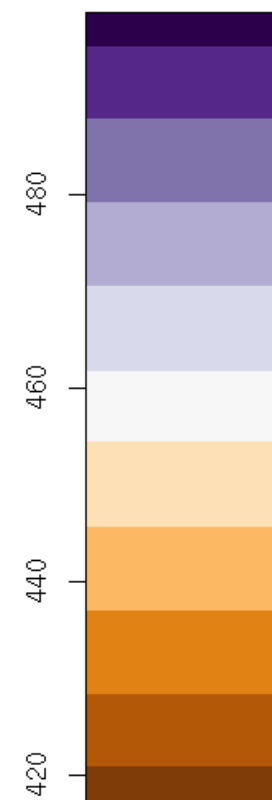
$$K(\mathbf{x}_i, \mathbf{x}', \sigma) = \begin{cases} \text{black} & \text{if } 0 \leq d(\mathbf{x}_i, \mathbf{x}') < 0.3\sigma \\ \text{dark gray} & \text{if } 0.3\sigma \leq d(\mathbf{x}_i, \mathbf{x}') < 0.7\sigma \\ \text{light gray} & \text{if } 0.7\sigma \leq d(\mathbf{x}_i, \mathbf{x}') < \sigma \\ \text{do not plot} & \text{if } \sigma \leq d(\mathbf{x}_i, \mathbf{x}') \end{cases}$$

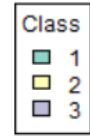
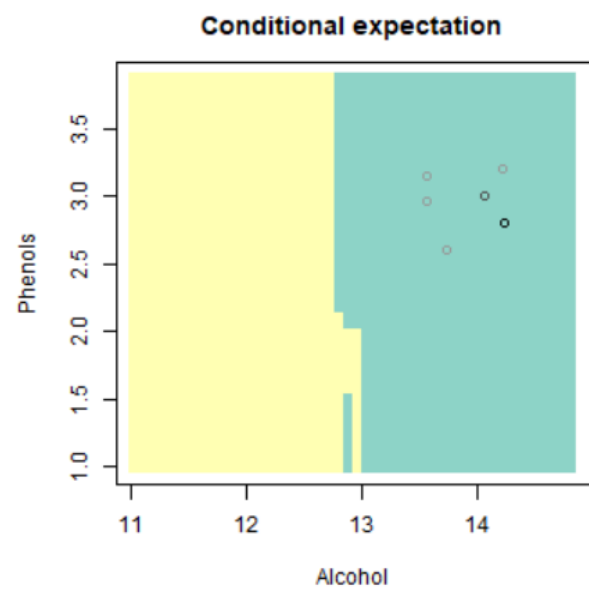


Conditional expectation

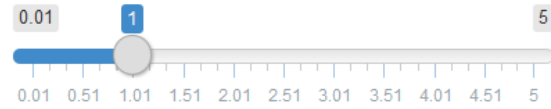


PE





Distance threshold:

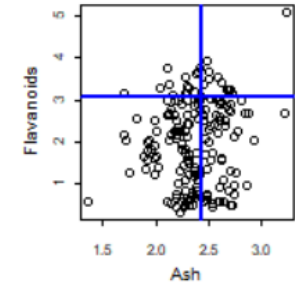
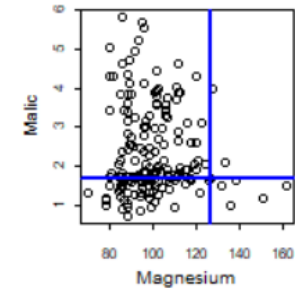


Distance function type:

- ☒ euclidean
- ☐ maxnorm

[Download snapshot \(pdf\)](#) [Deploy app](#)

Condition selectors



Malic	Ash	Alcalinity	Magnesium	Flavanoids	Nonflavanoid	Proanthocyanins	Intensity	Hue	OD280	Proline
1.71	2.43	15.60	127.00	3.06	0.28	2.29	5.64	1.04	3.92	1065.00

Conditional expectation

