

Modern Regression Methods

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Everything below is approximate. Please signal any corrections to Anthony.Davison@epfl.ch.

Course web page

Further material, links to data sets, etc., can be found on the course moodle page.

Lecture contents

1. Introduction (22/2/21; slides 1–30)
 - Motivation and examples (1–19)
 - Likelihood revision. Derivation of IWLS algorithm (20–30)
2. Iterative weighted least squares (1/3/21; slides 31–40)
 - Examples of IWLS. Venice example (31–33)
 - Deviance. Diagnostics (34–40)
3. Generalised linear models (8/3/21; slides 41–48)
 - Exponential families. GLMs (41–46)
 - IWLS for GLMs; Estimation of ϕ (46–48)
4. Generalised linear models (15/3/21; slides 49–62)
 - Jacamar example. (48–54)
 - Chimp example. Binary responses: Motivation. Tolerance distributions. Link functions. Logistic regression. (61–62)
5. Binary and count data (22/3/21; slides 63–82?)
 - Nodal involvement example. Count data: Motivation. Examples of data. (59–68)
 - Premier League example. Contingency tables and likelihoods for sampling schemes (69–82)

Modern Regression: Bibliography

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