

Local linear curve fitting: smoothing and jump and peak preservation

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Abstract. This talk starts by reviewing the use of local linear fitting when estimating a possibly non-smooth regression curve, i.e. a regression curve with possible discontinuities or changes in the derivative(s). It is shown how the method can be adapted to estimation of such non-smooth curves and how this leads to an estimator that compromises between smoothing and preservation of the non-smooth feature. Extensions to estimation of non-smooth surfaces are studied. Applications of the techniques to other settings, such as density estimation will be discussed.