Accurate Regression Parameters and Summary Statistics Estimation in Data with Censored Missing Values

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Imputation And Censored Values

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Missing Values and Imputation

• Some algorithms expect a ‘complete’ matrix

• Differential Expression Analysis is affected by missing values

• Censored values are lower than the observed ones

• Simple imputation methods are not good enough
Example Protein
Simple Imputation – Detection Limit

![Graph showing simple imputation for detection limit with Xs for treatment and Os for control.](image-url)
Simple Imputation - Mean
Model-based Imputation

![Graph showing peptide abundance with treatment and control groups.](image-url)
ROC Curve for Numerical Estimation

- **Full ML model**
- **Observed values**
- **Row mean**
Half of the Detection Limit
NORM Squeezed
Estimating Regression Coefficients
Estimating the Mean

![Graph showing the proportion of failures versus censoring percentage for different estimators. The graph includes lines for CC, Half, NORM, and NORM_sq, with distinct markers for each.](image-url)
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