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1.

Digits; 3.4 Rounding Off

3.5 Estimating Uncertainty on Values3.6 Propagation of Uncertainty-Overview-Two Types, Two Ways Each; 3.7 Which to Report? Maximum or Probable Uncertainty; 3.8 Bootstrapping; 3.9 Bias and Precision; 3.10 Takeaway; Exercises; Chapter 4 Essential Probability and Statistics; 4.1 Variation and Its Role in Topics; 4.2 Histogram and Its PDF and CDF Views; 4.3 Constructing a Data-Based View of PDF and CDF; 4.4 Parameters that Characterize the Distribution; 4.5 Some Representative Distributions; 4.6 Confidence Interval; 4.7 Central Limit Theorem; 4.8 Hypothesis and Testing

4.9 Type I and Type II Errors, Alpha and Beta4.10 Essential Statistics for This Text; 4.11 Takeaway; Exercises; Chapter 5 Simulation; 5.1 Introduction; 5.2 Three Sources of Deviation: Measurement, Inputs, Coefficients; 5.3 Two Types of Perturbations: Noise (Independent) and Drifts (Persistence); 5.4 Two Types of Influence: Additive and Scaled with Level; 5.5 Using the Inverse CDF to Generate n and u from UID(0, 1); 5.6 Takeaway; Exercises; Chapter 6 Steady and Transient State Detection; 6.1 Introduction; 6.2 Method; 6.3 Applications; 6.4 Takeaway; Exercises

Part III Regression, Validation, DesignChapter 7 Regression Target -Objective Function; 7.1 Introduction; 7.2 Experimental and Measurement Uncertainty-Static and Continuous Valued; 7.3 Likelihood; 7.4 Maximum Likelihood; 7.5 Estimating x and y Values; 7.6 Vertical SSD-A Limiting Consideration of Variability Only in the Response Measurement; 7.7 r-Square as a Measure of Fit; 7.8 Normal, Total, or Perpendicular SSD; 7.9 Akaho's Method; 7.10 Using a Model Inverse for Regression; 7.11 Choosing the Dependent Variable; 7.12 Model Prediction with Dynamic Models 7.13 Model Prediction with Classification Models