University of Essex
MSc Artificial Intelligence
Module: NA_PCOM7E April 2025 B

Collected Unit Notes

For convenience, unit notes from this module are collected here.

Please note that my personal reflections on the learning process for the module subject matter, for the sake of brevity, are collected and presented in the Unit 12 reflective essay.

Unit 1: Types and Sources of Data and an Introduction to R

The focus of this unit was to review the basics of programming in R, including software installation and common statistical methods.

Unit 2: Data Structures in R

The focus of this unit was to review basic data structures in R.

Unit 3: Data Management in R

The focus of this unit was to discuss methods for cleaning and preparing data sets for analysis.

Unit 4: Probabilities, Probability Distributions, and Sampling

The focus of this unit was to review standard types of probabilities and their interpretation.

Unit 5: Producing Plots and Introducing Calculus

The focus of this unit was to gain familiarity with plotting graphs and charts in R.

Unit 6: Statistical Inference, Confidence Intervals, and Hypothesis Testing

The focus of this unit was to discuss inferential statistics and probability distributions.

Unit 7: Parametric Tests

The focus of this unit was to review parametric tests, such as t-tests and F-tests, and methods for coding them in R.

Unit 8: Nonparametric Tests

The focus of this unit was to review nonparametric tests, such as Mann-Whitney and Wilcoxon tests, and methods for coding them in R.

Unit 9: Creating Cross-Tabulations and Performing Chi-Square Analysis

The focus of this unit was to gain familiarity coding chi-square analyses in R.

Unit 10: Correlation

The focus of this unit was to review different types and methods for correlating data in R and their interpretation.

Unit 11: Regression Analysis

The focus of this unit was to review standard methods of linear regression in R.

Unit 12: Bayesian Data Analysis

The focus of this unit was an introductory overview of Bayesian data analysis.

I also completed this module's final project, an individual presentation on the statistical significance of a variety demographic factors drawn from the 2011 Health Survey for England, along with an individual reflective essay on the same.