

# Mastering Essential Skills: Incorporating Software Development Principles in Statistical Practice

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## ABSTRACT / INTRODUCTION

Modern statistician and data science roles involve working with big and messy datasets, developing complex analysis pipelines, communicating results through reports and presentations, and implementing software or packages for disseminating our work. A number of principles and tools from the software development community, such as data and code versioning, unit testing, or workflow management systems, can support statisticians through these activities, to ensure their work is sustainable and reproducible. However, these skills are often left out of statistical degrees. In this talk, I will discuss how these principles can be applied to a statistician role, and how mastering them is rapidly becoming a core competency for statistical scientists.

## ABOUT THE AUTHOR(S)

Olivia Angelin-Bonnet completed her PhD in Statistics at Massey University, where she worked on unravelling genotype-to-phenotype relationships from multi-omics data, with a focus on polyploid organisms. After a year as a lecturer in Statistics at Massey University, she is now a statistical Scientist at Plant & Food Research. Her research interests include Systems Biology, multi-omics data integration, the study of biological networks from a statistical and computational perspective, and the development of visualisation tools for omics data.