

'pathtrackr': an R package for video tracking and analysing animal movement

Aaron Harmer ^{*1}, Daniel Thomas ¹

¹ Institute of Natural and Mathematical Sciences, Massey University, Auckland

Techniques for visualising and analysing animal movement patterns are widely used in behavioural studies. While commercial options exist for analysing animal movement via video, the cost of these is often prohibitive. To meet the need for an efficient and cost-effective video tracking and analysis tool, we have developed the 'pathtrackr' package for the open-source programming environment R. The 'pathtrackr' package allows for an automated and consolidated workflow, from video input to statistical output, of an animal's movement. The tracking functions work across a variety of visual contexts, including heterogenous backgrounds and variable lighting, can deal with localised background movement, and do not need training like many other solutions. We also include diagnostic tools in the package for troubleshooting. Future updates will include the ability to track multiple animals simultaneously. In this talk we will demonstrate the practical applications of 'pathtrackr'. Version 1.2.2 of the 'pathtrackr' package is available on github (<https://github.com/aharmer/pathtrackr>).

