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## Advanced R Programming – One Day Course Agenda

### Overview

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Attendees will learn how to develop and maintain code, troubleshoot and optimise R code, analyse and visualise large data-sets using the latest out-of-memory and big data graphics packages.

### Target Audience

This course is aimed at participants who are looking for advanced training in R, specifically data analysts and scientists working with big data.

### Learning Outcomes

At the end of this course delegates will have gained the following knowledge and capabilities:

- Effectively use machine learning functionality in R
  - Understand ML training and validation concepts and effectively interpret results
  - Build strong, high quality and robust predictive models in R
  - Apply automation techniques to streamline your R outputs and workflow
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#	Topic
1.	<b>Introduction and Recap</b> <ul style="list-style-type: none"><li>Recap on R, RStudio</li><li>A quick warm-up exercise</li><li>A data science scenario</li></ul>
2.	<b>Working with 'Big Data' in R</b> <ul style="list-style-type: none"><li>Ingestion and manipulation</li><li>Regression and modelling</li><li>Visualisation</li></ul>
3.	<b>Advanced Data Analysis and Machine Learning Techniques in R</b> <ul style="list-style-type: none"><li>Feature Selection</li><li>Classification Modelling</li><li>Logistic Regression</li><li>Discriminant Analysis</li><li>Trees: Bagging, Random Forest &amp; Boosting</li><li>Clustering</li><li>Support Vector Machines (SVM)</li><li>Validation and Accuracy measures</li></ul>
4.	<b>Automation in R</b> <ul style="list-style-type: none"><li>Batch data processing</li><li>Deployments and Maintenance</li></ul>
5.	<b>Summary and Close</b>