

Developing Visual Programming Interfaces to R Using Alteryx

Dan Putler¹

1. Alteryx, Inc.

*Contact author: dputler@alteryx.com

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Alteryx Analytics is a software platform for data blending and advanced analytics. As part of its advanced analytics capabilities, *Alteryx* provides a visual programming (or workflow) interface to a growing collection of *R* packages and functions. A visual workflow approach not aids new or casual users, but is also useful for advanced programmers since it allow them to layout the flow of a project in a natural way. Each tool that makes use of *R* to provide its functionality is represented as a node in the workflow. In addition to the *R* capabilities that come pre-packaged with *Alteryx* (the *R* code and other aspects of which can easily be accessed and modified by a user), developers can create their own tools based on *R* (which are known as *Alteryx* macros) that can be used as nodes within a workflow. Each node can be highly customized by the developer in terms of specifying data inputs, data outputs, and the GUI presented to the user to parameterize the node. In this presentation we will describe how *R* and *Alteryx* interact with one another in terms of transferring data and user provided input between *Alteryx* and *R*. In addition, we explain how *R* model objects created in one node can be moved to downstream nodes in a workflow or transferred to other *Alteryx* workflows.