Data Solutions for Discrete, Non-Discrete Time and Hierarchical Data

Background

Warwick Analytics provides ground breaking software that identifies root causes of faults and inefficiencies in manufacturing industries. The main algorithm (RCASE) was developed from over 10 years academic research and spun out of Warwick University.

RCASE requires a failure marker (usually from a warranty claim or test case) and some data from the life cycle of the product – this could include tolerance data, production data, testing data and user data. It does not require hypothesis and provides results even with dirty/incomplete data sets.

In 2013, Warwick Analytics won Demo God at Demo Fall and SAP’s worldwide most innovative start up as well as raising initial investment from Jensons Solutions.

Project

RCASE solves a multi-dimensional search space problem. The input into RCASE is effectively a large spreadsheet (with many rows and columns). WA has various solutions for transposing data but does not have any effective solutions for

* Discrete Time Based Data - sampled data taken at fixed intervals
* Non-Discrete Time Based Data – sampled data taken at random intervals
* Hierarchical Data – parent child relationships
* Rerun Data – Data from repeated tests whether the number of tests is variable

WA is looking for solutions to transpose the data into a format that can be used in RCASE. These solutions may be made up of data transformations, functions and/or knowledge base assumptions.

Deliverables

WA will provide access to the RCASE implementations, example datasets, dataset generators and the algorithm developers. The student is not expected to program but to come up with new algorithms to transpose the data for use in RCASE.

1. Solutions for discrete time based data
2. Solutions for non-discrete time based data
3. Solutions for hierarchical data
4. Solutions for rerun data