Anomaly Detection in FTSE 100 Index Using Machine Learning

A Full Documentation of Implementation & Execution 09/02/2017–09/03/2017

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2017 - University of Warwick

0.1 Project Outline

0.1.1 Purpose of this document

The purpose of this document is to provide the reader with a detailed understanding of the implementation of a financial modelling software for anomaly detection in FTSE 100 trading data.

0.1.2 Scope of this document

This document outlines the concrete implementation of a software system, providing details of the architecture, implementation and testing of both front and back-end, and providing insight into the management of team roles. The intended audience for this document are the client, Deutsche Bank Group Technology & Operation (GTO), and the individuals responsible for the systems implementation. The stakeholders are the client; Project Advisor Stephen Roberts; and Module Coordinator Professor Stephen Jarvis.

0.2 Product Description

0.2.1 Appearance

0.3 Project Management

0.3.1 Management Tools

0.3.2 Group Organisation

0.4 Constraints

0.4.1 Solution Constraints

0.4.2 Schedule Constraints

0.5 Implementation

0.5.1 Front-End

0.5.1.1 Interface

0.5.1.2 Database

0.5.2 Back-End

0.5.2.1 Machine Learning

0.5.2.2 Access of static and live data

0.6 Additional Features

0.6.1 Front-End

0.6.2 Back-End

0.7 Performance

0.7.1 Requirements

0.7.2 Memory Performance

0.7.3 Anomaly Accuracy

0.8 Usability

0.8.1 Appearance

0.8.2 Interactivity

0.9 Testing

0.9.1 Pass/Fail Criteria

0.9.2 Approach

0.9.3 Impact of Test Results