microsoft · applied machine learning

august · november 2016 ¨ <u>sharepoint interface</u>

MODULE 1 · INTRODUCTION TO TIME SERIES

INTRODUCTION

THE NATURE OF TIME SERIES DATA

IRREGULAR REPORTING

TIME SERIES DEMO

DECOMPOSITION

LOWESS REGRESSION

MOVING AVERAGE SMOOTHING

STL

SINGULARITY

AUTOCORRELATION

MOVING AVERAGE SMOOTHER DEMO

LOWESS DEMO

WORKING WITH TIME SERIES

MOVING AVERAGE MODELS

MOVING AVERAGE MODELS DEMO

AUTOREGRESSIVE MODELS

AUTOCORRELATION

AUTOREGRESSIVE MODELS DEMO

AUTOREGRESSIVE RECAP

ARMA MODELS

ARMA MODELS DEMO

DIFFERENCING

ARIMA MODELS

EXPONENTIALLY WEIGHTED AVERAGE MODELS

ARIMA MODELS DEMO

FORECASTING DEMO

FORECASTING IN CONTEXT

A FORECASTING SCENARIO

FORECASTING WITH AZURE MACHINE LEARNING

FORECASTING WITH MICROSOFT EXCEL

VISUALIZING TIME SERIES IN POWER BI

TIME SERIES AND FORECASTING LAB

MODULE2 · INTRODUCTION TO SPATIAL DATA

INTRODUCTION

GETTING STARTED WITH SPATIAL DATA

DEMO: SPATIAL DATA FRAMES IN R

DEMO: PLOTTING SPATIAL DATA

DEMO: EXPLORING SPATIAL RELATIONSHIPS

KERNEL DENSITY ESTIMATION (KDE)

DEMO: KDE

K-NEAREST NEIGHBOUR

WORKING WITH SPATIAL DATA

INTRODUCTION

SPATIAL POISSON PROCESSES

VARIOGRAMS

DEMO: VARIOGRAMS

KRIGING (PART 1, 2, 3)

DEMO: KRIGING

SPATIAL DATA IN CONTEXT

INTRODUCTION

A SPATIAL DATA SCENARIO

DEMO: USING R IN SQL SERVER

DEMO: WORKING WITH SPATIAL DATA IN SQL SERVER

DEMO: VISUALIZING SPATIAL DATA IN POWER BI

SPATIAL DATA ANALYSIS LAB

MODULE3 · INTRODUCTION TO TEXT ANALYTICS

INTRODUCTION

WORD FREQUENCY

DEMO: TEXT NORMALIZATION IN R

DEMO: TEXT NORMALIZATION IN PYTHON

DEMO: REMOVING STOPWORDS IN R

DEMO: REMOVING STOPWORDS IN PYTHON

STEMMING

DEMO: STEMMING IN R

DEMO: STEMMING IN PYTHON

THE MOST POPULAR WORDS

WORKING WITH TEXT

INTRODUCTION

CALCULATING WORD IMPORTANCE

INTRODUCTION TO NATURAL LANGUAGE PROCESSING

DEMO: SENTIMENT ANALYSIS WITH R

DEMO: SENTIMENT ANALYSIS WITH PYTHON

TEXT ANALYTICS IN CONTEXT

INTRODUCTION

A TEXT ANALYSIS SCENARIO

DEMO: STREAMING SENTIMENT ANALYSIS

DEMO: REALTIME SENTIMENT REPORTING

TEXT ANALYTICS LAB

MODULE4 · INTRODUCTION TO IMAGE ANALYSIS

INTRODUCTION

DEMO: IMAGE BASICS

DEMO: IMAGE PROPERTIES

DEMO: IMAGE MANIPULATION

BLURRING AND DENOISING

DENOISING WITH A MEDIAN FILTER

DEMO: USING FILTERS

WORKING WITH IMAGES

INTRODUCTION

EDGE DETECTION

DEMO: EDGE DETECTION

DEMO: SEGMENTATION

CORNER DETECTION

DEMO: CORNER DETECTION

INTRODUCTION TO MATHEMATICAL MORPHOLOGY

DEMO: EROSION

DEMO: DILATION

OPENING AND CLOSING

DEMO: OPENING

DEMO: CLOSING

IMAGE ANALYSIS IN CONTEXT

INTRODUCTION

AN IMAGE ANALYSIS SCENARIO

DEMO: COGNITIVE SERVICES APIS

DEMO: FACE DETECTION WITH PYTHON

DEMO: FACE COMPARISON WITH C#

IMAGE ANALYSIS LAB