### ON INSURANCE DATA MODELLING USING COMPOSITE DISTRIBUTIONS

Dissertation report submitted to Christ College (Autonomous) in partial

fulfillment of the requirement for the award of M.Sc. Degree

programme in Statistics

by

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This is to certify that the project entitled 'ON INSURANCE DATA MODELLING USING COMPOSITE DISTRIBUTIONS', submitted to the Department of Statistics in Partial fulfillment of the requirements for the award of the Masters Degree in Statistics, is a bonafied record of original research work done by ANGEL ROSE A J (CCAVMST001) during the period of her study in the Department of Statistics, Christ College (Autonomous) Irinjalakuda, Thrissur, under my supervision and guidance during the year 2022-2023.

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#### ACKNOWLEDGEMENT

This dissertation would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of the study.

I would like to express my deepest gratitude to my guide Dr.Davis Antony Mundassery, Associate Professor, Department of Statistics, whose guidance has been of immense help in successfully completing this report.

With great pleasure, I take this opportunity to express my sincere gratitude to my respected teachers, friends and non teaching staff of Department of Statistics, Christ College (Autonomous) Irinjalakuda, for their valuable advice and encouragement throughout my course.

Last but not least, I am indebted to my parents for their unconditional love and support.

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### A STUDY ON STOCK MARKET VALUE OF TCS GROUP

Project report submitted to Christ College (Autonomous) in partial

fulfilment of the requirement for the award of M.Sc. Degree

programme in Statistics

by

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This project would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of the study.

I would like to express my deepest gratitude to my guide Geethu Gopinath , Assistant Professor, Department of Statistics, whose guidance has been of immense help in successfully completing this report.

With great pleasure, I take this opportunity to express my sincere gratitude to my respected teachers, friends and non teaching staff of Department of Statistics, Christ College (Autonomous) Irinjalakuda, for their valuable advice and encouragement throughout my course.

Last but not least, I am indebted to my parents for their unconditional love and support.

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### STATISTICAL ANALYSIS USING MULTINOMIAL LOGISTIC REGRESSION

Project report submitted to Christ College (Autonomous) in partial

fulfilment of the requirment for the award of M.Sc. Degree

programme in Statistics

by

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I also declare that this project has not been previously formed the basis for the award of any degree, diploma, associate ship, fellowship etc. of any other university or institution.

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#### ACKNOWLEDGEMENT

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With great pleasure, I take this opportunity to express my sincere gratitude to my respected teachers, friends and non teaching staff of Department of Statistics, Christ College (Autonomous) Irinjalakuda, for their valuable advices and whole hearted co-operation in the fulfillment of this project.

Last but not least, I am indebted to my parents for their unconditional love and support.

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### FORECASTING OF RAINFALL IN KERALA AND OUTBREAK OF DENGUE INCIDENCE

Project report submitted to Christ College (Autonomous) in partial

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### ACKNOWLEDGEMENT

This project would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of the study.

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With great pleasure, I take this opportunity to express my sincere gratitude to my respected teachers, friends and non teaching staff of Department of Statistics, Christ College (Autonomous) Irinjalakuda, for their valuable advice and encouragement throughout my course.

Last but not least, I am indebted to my parents for their unconditional love and support.

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### **ARTIFICIAL NEURAL NETWORK** IN MACHINE LEARNING

Project report submitted to Christ College (Autonomous) in partial

fulfilment of the requirment for the award of M.Sc. Degree

programme in Statistics

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#### ACKNOWLEDGEMENT

This project would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of the study.

I would like to express my deepest gratitude to my guide GEETHU GOPINATH, Assistant Professor, Department of Statistics, whose guidance has been of immense help in successfully completing this report.

With great pleasure, I take this opportunity to express my sincere gratitude to my respected teachers, friends and non teaching staff of Department of Statistics, Christ College (Autonomous) Irinjalakuda, for their valuable advice and encouragement throughout my course.

Last but not least, I am indebted to my parents for their unconditional love and support.

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- Confusion matrix

#### Comparison Of Logistic Regression And Random Forest Models For Prediction Of Heart Attack

Project report submitted to Christ College (Autonomous) in partial

fulfilment of the requirment for the award of M.Sc. Degree

programme in Statistics

by

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I also declare that this project has not been previously formed the basis for the award of any degree, diploma, associateship, fellowship etc. of any other university or institution.

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#### ACKNOWLEDGEMENT

This project would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of the study.

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With great pleasure, I take this opportunity to express my sincere gratitude to my respected teachers, friends and non teaching staff of Department of Statistics, Christ College (Autonomous) Irinjalakuda, for their valuable advice and encouragement throughout my course. Last but not least, I am indebted to my parents for their unconditional love and support.

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#### BURR XII DISTRIBUTION: RELIABILITY CONTEXT

Dissertation report submitted to Christ College (Autonomous) in partial

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programme in Statistics

by

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This dissertation would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of the study.

I would like to express my deepest gratitude to my guide Mrs.Mary Priya, Assistant Professor, Department of Statistics, whose guidance has been of immense help in successfully completing this report.

With great pleasure, I take this opportunity to express my sincere gratitude to my respected teachers, friends and non teaching staff of Department of Statistics, Christ College (Autonomous) Irinjalakuda, for their valuable advice and encouragement throughout my course.

Last but not least, I am indebted to my parents for their unconditional love and support.

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### STATISTICAL ANALYSIS ON **GLOBAL CARBON DIOXIDE EMISSION**

Project report submitted to Christ College (Autonomous) in partial

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I also declare that this project has not been previously formed the basis for the award of any degree, diploma, associateship, fellowship etc. of any other university or institution.

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#### ACKNOWLEDGEMENT

This project would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of the study.

I would like to express my deepest gratitude to my guide Megha C M, Assistant Professor, Department of Statistics, whose guidance has been of immense help in successfully completing this report.

With great pleasure, I take this opportunity to express my sincere gratitude to my respected

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Last but not least, I am indebted to my parents for their unconditional love and support.

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#### A MAGPIE ON BAYESIAN

Dissertation report submitted to Christ College (Autonomous) in partial

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# Objectives

• To enrich our knowledge about Bayesian regression particularly Bayesian linear regression and Bayesian analysis which has wide application in many fields using R and python as statistical tool.

#### CUMULATIVE SUM CONTROL CHARTS FOR CENSORED LIFE DATA

Dissertation report submitted to Christ College(Autonomous)

in partial fulfillment of the award of the Msc.Degree

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by

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#### **Objectives**

To reinforce our knowledge on Statistical Quality Control by making use of distributions and applying them to real life scenarios.

To enhance our knowledge on weibull distribution as a characteristic life distibution and gamma distribution that has wide application in real life as a pulse.

#### EFFECT OF COVID-19 ON INDIAN AUTO SALES USING TIME SERIES ANALYSIS

Project report submitted to Christ College (Autonomous) in partial

fulfilment of the requirment for the award of M.Sc. Degree

programme in Statistics

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### DECLARATION

I hereby declare that the matter embodied in the project entitled 'EFFECT OF COVID-19 ON INDIAN AUTO SALES USING TIMESERIES ANAL-YSIS', submitted to the Department of Statistics in partial fulfillment of the requirements for the award of the Masters Degree in Statistics, is the result of my studies and this project has been composed by me under the Guidance and Supervision of Megha V M, Assistant Professor, Department of Statistics, Christ College (Autonomous) Irinjalakuda, during 2021-2023.

I also declare that this project has not been previously formed the basis for the award of any degree, diploma, associateship, fellowship etc. of any other university or institution.

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SHAHANA V M

#### ACKNOWLEDGEMENT

This project would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of the study.

I would like to express my deepest gratitude to my guide MEGHA C M , Assistant Professor, Department of Statistics, whose guidance has been of immense help in successfully completing this report.

With great pleasure, I take this opportunity to express my sincere gratitude to my respected teachers, friends and non teaching staff of Department of Statistics, Christ College (Autonomous) Irinjalakuda, for their valuable advice and encouragement throughout my course.

Last but not least, I am indebted to my parents for their unconditional love and support.

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#### STUDY ON MENTAL HEALTH OF BUSINESSMEN OR ENTREPRENEURS DURING COVID-19 PANDEMIC IN KERALA

Project report submitted to Christ College (Autonomous) in partial fulfilment for the award of the M.Sc. Degree programme in Statistics

> by SHEETAL ANNA SABU Register No. CCAVMST012



Department of Statistics Christ College (Autonomous) Irinjalakuda 2023

## CERTIFICATE

This is to certify that the project entitled 'STUDY ON MENTAL HEALTH OF BUSSINESSMEN OR ENTREPRENEURS DURING COVID-19 PANDEMIC IN KERALA', submitted to the Department of Statistics in Partial fulfillment of the requirements for the award of the Masters Degree in Statistics, is a bonafied record of original research work done by SHEETAL ANNA SABU (CCAVMST012) during the period of her study in the Department of Statistics, Christ College (Autonomous) Irinjalakuda, Thrissur, under my supervision and guidance during the year 2022-2023

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External Examiner:

Place: Irinjalakuda Date:18/07/23

### DECLARATION

I hereby declare that the matter embodied in the project entitled 'STUDY ON MENTAL HEALTH OF BUSINESSMEN OR ENTREPRENEURS DURING COVID-19 PANDEMIC IN KERALA', submitted to the Department of Statistics in partial fulfillment of the requirements for the award of the Masters Degree in Statistics, is the result of my studies and this project has been composed by me under the Guidence and Supervision of Ms.Kripa PJ, Assistant Professor, Department of Statistics, Christ College (Autonomous) Irinjalakuda, during 2022-2023. I also declare that this project has not been previously formed the basis for the award of any degree, diploma, associateship, fellowship etc. of any other university or institution.

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SHEETAL ANNA SABU

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My sincere thanks are also due to Librarian and non-teaching staff of the Christ college (Autonomous) Irinjalakuda for their help and co-operations. Also, I register my heartful thanks to my classmates for the co-operation and warmth I could enjoy from them. Last but not least, I am indebted to my parents for their unconditional love and support.

Irinjalakuda

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#### Chapter 1

### INTRODUCTION

#### 1.1 Introduction

Kerala is a state on the Malabar coast of India. Which is famous for its culture, traditions and also for its economy. Kerala was a model for high human development at low incomes. But in recent years the income levels also have risen. Kerala is gradually shifting from an agrarian economy to a market economy. And the economy of Kerala is the 9th largest in India, with an annual gross state production of rs.9.78 lakh crore in 2020-2021. Small scale businesses in Kerala plays a significant role in contributing to the burgeoning economy of Kerala.

The pandemic created a complex and chaotic business environment. the impact of the outbreak of covid-19 has left the entrepreneur's on edge in Kerala. The pandemic has severely affected human life cycle, in an enormous way. The outbreak of Covid-19 has created the nationwide lockdown which lead to serious problems to multiple sectors of economy.

#### ON GENERATING DISCRETE MODELS OF CONTINUOUS DISTRIBUTIONS

Project report submitted to Christ College (Autonomous) in partial fulfilment for the award of the M.Sc. Degree programme in Statistics

> by SONA ANS REJI Register No. CCAVMST013



Department of Statistics Christ College (Autonomous) Irinjalakuda 2023

## CERTIFICATE

This is to certify that the project entitled "ON GENERATING DISCRETE MODELS OF CONTINUOUS DISTRIBUTIONS", submitted to the Department of Statistics in partial fulfillment of the requirements for the award of the Masters Degree in Statistics, is a bonafied record of original research work done by SONA ANS REJI (CCAVMST013) during the period of her study in the Department of Statistics, Christ College (Autonomous) Irinjalakuda, Thrissur, under my supervision and guidance during the year 2022-2023.

> Dr. Davis Antony Mundassery Head of the Department(Self Financing) Department of Statistics Christ College (Autonomous) Irinjalakuda

External Examiner:

Place : Irinjalakuda Date :20/07/2023

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I hereby declare that the matter embodied in the project entitled ' ON GENERATING DISCRETE MODELS OF CONTINUOUS DISTRIBUTIONS', submitted to the Department of Statistics in partial fulfillment of the requirements for the award of the Masters Degree in Statistics, is the result of my studies and this project has been composed by me under the Guidence and Supervision of Dr.Davis Antony Mundassery, Head of the Department(Self Financing), Department of Statistics, Christ College (Autonomous) Irinjalakuda, during 2022-2023.

I also declare that this project has not been previously formed the basis for the award of any degree, diploma, associateship, fellowship etc. of any other university or institution.

Irinjalakuda

Date:20/07/2023

SONA ANS REJI

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I would like to give my sincere thanks to my teachers for the inspiration, encouragement and technical help they bestowed upon me. I am indebted to the faculty of the department for sharing with me their knowledge base and for giving me a better perspective of the subject and for providing the necessary facilities during the span of my study.

My sincere thanks to Librarian and non-teaching staff of the Christ college (Autonomous) Irinjalakuda for their help and co-operations. Also, I would also like to thank my friends and colleagues for their encouragement and support during this period. Their words of encouragement, stimulating discussions, and willingness to lend a helping hand have been invaluable. Last but not least, I am indebted to my parents for their unconditional love and support.

Irinjalakuda

Date:20/07/2023

SONA ANS REJI

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#### ON A NEW FLEXIBLE GENERALIZED FAMILY OF DISTRIBUTIONS

Dissertation report submitted to Christ College (Autonomous) in partial

fulfilment of the requirement for the award of M.Sc. Degree

programme in Statistics

by

SONA K P



**Department of Statistics** 

Christ College (Autonomous)

Irinjalakuda

2023

#### CERTIFICATE

This is to certify that the Dissertation entitled **'ON A NEW FLEXI-BLE GENERALIZED FAMILY OF DISTRIBUTIONS'**, submitted to the Department of Statistics in Partial fulfillment of the requirements for the award of the Masters Degree in Statistics, is a bonafied record of original research work done by **SONA K P (CCAVMST014)** during the period of her study in the Department of Statistics, Christ College (Autonomous) Irinjalakuda, Thrissur, under my supervision and guidance during the year 2021-2023.

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Date:

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I hereby declare that the matter embodied in the Dissertation entitled 'ON A NEW FLEXIBLE GENERALIZED FAMILY OF DISTRIBUTIONS', submitted to the Department of Statistics in partial fulfillment of the requirements for the award of the Masters Degree in Statistics, is the result of my studies and this dissertation has been composed by me under the Guidance and Supervision of Dr.Davis Antony Mundassery, Head of the Department, Department of Statistics (Self Financing), Christ College (Autonomous) Irinjalakuda, during 2021-2023.

I also declare that this Dissertation has not been previously formed the basis for the award of any degree, diploma, associateship, fellowship etc. of any other university or institution.

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#### ACKNOWLEDGEMENT

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With great pleasure, I take this opportunity to express my sincere gratitude to my respected

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SONA K P

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#### CLUSTER ANALYSIS

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fulfilment of the requirment for the award of M.Sc. Degree

programme in Statistics

by

SREYA SASI



**Department of Statistics** 

Christ College (Autonomous)

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2023

#### CERTIFICATE

This is to certify that the Dissertation entitled 'CLUSTER ANALY-SIS', submitted to the Department of Statistics in Partial fulfillment of the requirements for the award of the Masters Degree in Statistics, is a bonafied record of original research work done by SREYA SASI(CCAVMST015) during the period of his study in the Department of Statistics, Christ College (Autonomous) Irinjalakuda, Thrissur, under my supervision and guidance during the year 2022-2023.

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# DECLARATION

I hereby declare that the matter embodied in the Dissertation entitled 'CLUS-TER ANALYSIS', submitted to the Department of Statistics in partial fulfillment of the requirements for the award of the Masters Degree in Statistics, is the result of my studies and this Dissertation has been composed by me under the Guidence and Supervision of SREEDEVI P N, Assistant Professor, Department of Statistics, Christ College (Autonomous) Irinjalakuda, during 2022-2023.

I also declare that this project has not been previously formed the basis for the award of any degree, diploma, associateship, fellowship etc. of any other university or institution.

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Last but not least, I am indebted to my parents for their unconditional love and support.

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Date:

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