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ESTATÍSTICA

# CERTIFICATE Of Attendance

We certify that **Alisson Brito** participated and presented the poster entitled **Measuring different association structures between two variables** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Daisy Santana Ferreira** participated and presented the poster entitled **Modelos de classes latentes: uma aplicação na saúde mental** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE

## Of Attendance

We certify that **Elias Sabe** participated and presented the poster entitled **Understanding the factors that influence the price of a car** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Gabriel Messias Santana Peixoto** participated and presented the poster entitled **Utilization of bibliometrics and systematic review with machine learning techniques for assessing the relevance of scientific literature** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Jerfson Bruno do Nascimento Honório** participated and presented the poster entitled **Detecção de observações influentes no contexto da Geoestatística bivariada** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Joseferson da Silva Barreto** participated and presented the poster entitled **Machine Learning Techniques for Multiclass Classification of Severe Acute Respiratory Syndrome (SARS): A Comprehensive Analysis** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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We certify that **Leonardo Santos** participated and presented the poster entitled **Stochastic modeling of COVID-19 data via generalized Ornstein-Uhlenbeck processes** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE

## Of Attendance

We certify that **Luciana Graziela de Godoi** participated and presented the poster entitled **Reparameterized Segmented Regression** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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We certify that **Luiz Nakamura** participated and presented the poster entitled **Comparison between different techniques to deal with bimodal responses** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Miguel Gustavo Gomes da Silva** participated and presented the poster entitled **A Panel Data Envelopment Analysis for Measuring the Pandemics' Response and Municipal Technical Efficiency** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Momate Emate Ossifo** participated and presented the poster entitled **Analysis of body weight in corriedale ewes using a GAMLSS approach** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Monica Paola de la Cruz** participated and presented the poster entitled **Hybrid prediction of infections and deaths due to COVID-19 in two Colombian data series** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Nicollas da Costa** participated and presented the poster entitled **Analyzing county-level COVID-19 vaccination rates in Texas: A new Lindley regression mode** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Pedro Augusto Ferreira da Silva** participated and presented the poster entitled **Predição aos casos da SARS-CoV19 no estado de Mato Grosso: Uma aplicação da técnica de Machine Learning com Random Survival Forest** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Ramon Lima de Oliveira Tavares** participated and presented the poster entitled **Advances in Time Series Analysis and Modeling with Emphasis on Artificial Intelligence and Long Short-Term Memory Networks 2** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Rita de Cássia de Vasconcelos Pedrosa** participated and presented the poster entitled **Application of time series forecasting using deep learning to estimate rainfall in Zona da Mata - Pernambuco** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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We certify that **Rodolpho Quintela** participated and presented the poster entitled **Estimation in Partially Linear Spatial Models** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Sóstenes Jerônimo da Silva** participated and presented the poster entitled **Aplicação de Cadeia de Markov em dados de precipitação diária da Região Metropolitana de Recife-PE** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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We certify that **Thiago Rezende** participated and presented the poster entitled **A stationary and non-Gaussian state-space family with an approximated marginal likelihood: a new filtering inference** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE

## Of Attendance

We certify that **Tiago Almeida de Oliveira** participated and presented the poster entitled **Generalized Linear Model Applied to the Topic of Mental Health in Public Safety Professionals in the Campina Grande Metropolitan Region** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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We certify that **Ana Carolina Barreto Tavares** participated and presented the poster entitled **COVID-19 Mortality Trends for Brazilian Regions: Joinpoint Regression Analysis, 2020-2022** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Ana Cecilia Diaz Bacca** participated and presented the poster entitled **The Maki-Thompson Model on  $Z$  with Variations Associated with  $K$ -Regular Rings** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Crysttian Arantes Paixao** participated and presented the poster entitled **Evaluation of climatic characteristics using Time Series for the city of Camaçari/BA** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Fabio Alexander Fajardo Molinares** participated and presented the poster entitled **Previsão das Taxas de Mortalidade Materna no Brasil durante a Pandemia de COVID-19: Uma Comparação entre os Modelos ARMA,  $\beta$ ARMA e KARMA** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Felipe Quintino** participated and presented the poster entitled **Drift Estimation for the Generalized Ornstein-Uhlenbeck Process with Lévy Jumps** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Giullber Valentim da Silva** participated and presented the poster entitled **The use of data augmentation in balancing X-ray image datasets for classification using convolutional neural networks** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Hiago Jose Andrade de Albuquerque Martins** participated and presented the poster entitled **Analysis of the Basic Education Development Index in the state of Paraíba in the year 2019** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Hugo Victor Silva** participated and presented the poster entitled **An integer linear optimization model to solve the preference manipulation problem in the Graph Model for Conflict Resolution with two decision makers** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Jhon F. Puerres Tipas** participated and presented the poster entitled **Tree rumor models** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **João Victor de Andrade** participated and presented the poster entitled **Stochastic Analysis for Trend Modeling in the Commodity Market** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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# CERTIFICATE Of Attendance

We certify that **Jonatha Sousa Pimentel** participated and presented the poster entitled **Como as variáveis humanas e meteorológicas afetam o comportamento espaço-temporal dos incêndios florestais brasileiros?** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Ludmila de Pinho Cavalcanti** participated and presented the poster entitled **Um modelo biológico com operador de substituição** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Luis Gonzaga Pinheiro Felix** participated and presented the poster entitled **Explorando seleção de variáveis explicativas no contexto dos modelos aditivos generalizados de localização, escala e forma** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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We certify that **Mateus Silva Rocha** participated and presented the poster entitled **Webscraping com Machine Learning para análises de sentimentos de jogos eletrônicos usando Python** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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## Of Attendance

We certify that **Nataly Adriana Jimenez Monroy** participated and presented the poster entitled **Modelo Multinomial: uma Aplicação em Dados Sociais** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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We certify that **Pablo Gomes** participated and presented the poster entitled **Percolation of words on the hypercubic lattice with truncated long-range interactions** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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We certify that **Rodolfo Pereira Franklin** participated and presented the poster entitled **Comparing LSTM Neural Networks and ARIMA Models in Stock Price Forecasting: A Case Study with KLBN11.SA** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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We certify that **Tatiane Fontana** participated and presented the poster entitled **Analysis of leptospirosis incidence in São Paulo, Brazil using generalized autoregressive moving average models** at the I Workshop on Applied Statistics and Stochastic Processes (WASSP) held at Center for Exact and Natural Sciences at Federal University of Pernambuco (CCEN-UFPE), Recife, Pernambuco, Brazil, from November 29th to December 1st, 2023.

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**FERNANDA DE BASTIANI**  
PRESIDENT OF THE ORGANIZING  
COMMITTEE

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**PABLO MARTIN RODRIGUEZ**  
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