Predication Instances spot price in EC2

test test

Abstract We analyze G2 spot instance price

1 Introduction

In this paper, we focus to analyze the predication of spot instances price for 7 regions by use different time series models such as ARIMA, SARIMA VAR, DLM, prophet, average and nave model our work covered 7 regions of spot instances datasets, ap-northeast-1, ap-southeast-1, ap-regions, and 5 types and different period of datasets G2(03-02 to 2016-10-31),I2(2016-05-03 to 2017-02-04),M4,c3,R3(2016-03-02 to 2017-02-04)

Explain opportunistic cloud computing resources with spot instance in EC2
Mention the difficulies of price change prediction Ben-Yehuda et. al [1]
Describe uniqueness of GPU spot instance with DeepSpotCloud
Summarize the overall contents

2 Time-Series Analysis for GPU Spot Instances

List basic methods that are widely used in other wors

naive
mean
seasonal mean

Name of First Author
Name, Address of Institute, e-mail: name@email.address

Name of Second Author
Name, Address of Institute e-mail: name@email.address

ARIMA with different parameters stander for Autoregressive Integrated Moving Average, which is the most popular statistical model and widely used to forecasting a time series, the model is a combination of autoregressive Eq. 1 and moving-average model Eq. 2, with three parameters (p,d,q) where p is the number of autoregressive terms, which is depends on past values, d is the degree of differencing and q is the number of lagged forecast errors in the prediction equation, depends only on the random error terms

$$y_t = w_0 + \beta_1 y_{t-1} + \beta_2 y_{t-2} + ...\beta_n y_{t-n} + \varepsilon_t \tag{1}$$

$$y_t = w_0 + \varepsilon_t + \delta_1 \varepsilon_{t-1} + \delta_2 \varepsilon_{t-2} + ... + \delta_n \varepsilon_{t-n} \tag{2}$$

Thus, ARIMA if d=n will be

$$y_t = w_0 + \beta_1 y_{t-1} + \beta_2 y_{t-2} + ...\beta_n y_{t-n} + \delta_1 \varepsilon_{t-1} + \delta_2 \varepsilon_{t-2} + ... + \delta_n \varepsilon_{t-n} + \tag{3}$$

Where the term β_i is, weight applied to prior values in the time series δ_i is autocorrelation coefficients at lags and ε_i is residual error term

3 Evaluation

Compare all the methods of different types of algorithms to different instance types

4 Conclusion

Summarize

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References

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