

Introduction

this is a L^AT_EX document

hello

Variable	Min	q ₁	\tilde{x}	q ₃	Max	\bar{x}
real_gdp_growth	-31.4	1.4	3.0	4.7	33.4	3.0
inflation	-19.3	1.5	3.2	5.4	24.0	3.7
tbill_yield	0.6	3.9	5.7	7.7	15.3	6.0
shiller_pe	6.6	15.0	20.5	25.7	44.2	20.6
consumer_confidence	95.7	98.9	100.5	101.1	103.1	100.0
mktcap_gdp_ratio	0.0	0.1	0.1	0.1	0.2	0.1
sp500_return	-20.4	-1.2	1.0	2.8	12.0	0.6
sp500_re3	-31.1	-1.7	2.4	6.2	25.9	2.0
sp500_re6	-37.8	-2.4	4.5	9.9	38.0	4.0
sp500_re12	-42.5	-0.8	9.7	18.3	52.7	8.0
sp500_re60	-32.6	9.4	45.4	70.4	213.9	46.1

Table 1

Summary of features

hello *hello test* hello world hello world what do you think is the future of the world
this is the future of our life

$f(x) = (x + 2)^3$

$f(x) = x$

$f(x) = x$ (1)

$1 + 1_2(hello)$ (2)

$\begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix}$

a b c d
a d c

Table 2

	<i>Dependent variable:</i>
	bubble
real_gdp_growth	−0.007 (0.035)
inflation	0.099*** (0.028)
tbill_yield	0.237*** (0.073)
shiller_pe	−0.658*** (0.058)
consumer_confidence	−1.182*** (0.147)
mktcap_gdp_ratio	216.592*** (18.361)
sp500_return	−0.105*** (0.033)
sp500_re3	0.018 (0.022)
sp500_re6	−0.021 (0.020)

	Model	Sensitivity	Specificity	Balanced Accuracy
1	Logit-P	0.727	0.721	0.724
2	Logit-RW	0.727	0.735	0.731
3	RF-CV	1	0.86	0.93
4	RF-RW	0.455	1	0.727
5	RNN-BiLSTM-focal	0	1	0.5

Table 3

The performance of models

	0.005	0.01	0.015	0.05
3	0.67	0.88	0.84	0.85
5	0.95	0.95	0.83	0.86
6	1.00	0.93	0.88	0.84
7	0.95	0.95	0.89	0.80
12	0.89	0.85	0.96	0.86

Table 4

Balanced accuracy of RF-CV with different quantiles (column) and periods (row)