Sample LaTeX

testing

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Abstract

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1 Section One

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2 Section Two

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2.1 Subsection One

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$$f_L \approx \tilde{f}_K(x) \equiv \frac{A_0}{2} + \sum_{k=1}^{K} A_k \cos k\pi \frac{x - l_a}{l_b - l_a} \tag{1}$$

$$\begin{aligned} \Phi_L(\omega) &= \mathbb{E}\left[\mathbb{E}\prod_{n=1}^{N}\left[e^{i\omega l_n \cdot \mathbb{1}_{\epsilon_n \leq \alpha_n(z_n)}} | \mathbf{Z} = \mathbf{z}\right]\right] \\ &= \mathbb{E}\left[\prod_{n=1}^{N}\mathbb{E}\left[e^{i\omega l_n \cdot \mathbb{1}_{\epsilon_n \leq \alpha_n(z_n)}} | \mathbf{Z} = \mathbf{z}\right]\right] \end{aligned} \tag{2}$$

and $\alpha_n(z) = \frac{\varepsilon_n - \beta_n^T \mathbf{z}}{b_n}$

2.2 Subsection two

Algorithm 1: Build tree

Define $P := T := \{\{1\}, \ldots, \{d\}\}$ $\#P > 1$ Choose $C' \in \mathcal{C}_p(P)$ with
$C' := \text{argmin}_{C \in \mathcal{C}_p(P)} \varrho(C)$ Find an optimal partition tree $T_{C'}$ Update
$P := (P \backslash C') \cup \{\bigcup_{t \in C'} t\}$ Update $T := T \cup \{\bigcup_{t \in \tau} t : \tau \in T_{C'} \backslash \mathcal{L}(T_{C'})\}$ T

Nullam vitae faucibus purus. Curabitur vitae leo id augue suscipit gravida. Curabitur auctor urna aliquet scelerisque mollis. Vestibulum ut vehicula ex. Proin porta at diam nec scelerisque. Donec massa massa, placerat in blandit vel, luctus a nisi. Mauris vel ligula nunc. Proin in eleifend nunc. Curabitur in leo quis justo scelerisque euismod. Fusce vestibulum massa vitae elementum sagittis. Mauris dapibus tincidunt sodales. Vivamus tempor, justo eu maximus pharetra, metus leo interdum velit, eget accumsan urna risus id enim. Morbi gravida laoreet rutrum. Cras vehicula ligula sit amet imperdiet sollicitudin. Cras sit amet purus neque.

3 Section three

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$$\begin{bmatrix} a_1 & a_2 & a_3 \\ a_5 & a_6 & a_7 \\ a_8 & a_9 & \dots \end{bmatrix} \tag{3}$$

$$\begin{pmatrix} a_1 & a_2 & a_3 \end{pmatrix}$$

Table 1: caption of the table

column 1	column 2	column3
observation	result	2
observation2	result2	3
observation3	result3	4
observation3	result3	4

Can I do code ?

```
import matplotlib
import matplotlib.pyplot as plt
import numpy as np
matplotlib.use('Agg')
fig, ax = plt.subplots()
x = np.linspace(-15, 15, 100)
ax.plot(np.sin(x)/x)
fig.tight_layout()
fig.savefig('./py_demo.png')
'./py_demo.png'
```

I want to cite somethings here. (1) (3; 2)

(2)

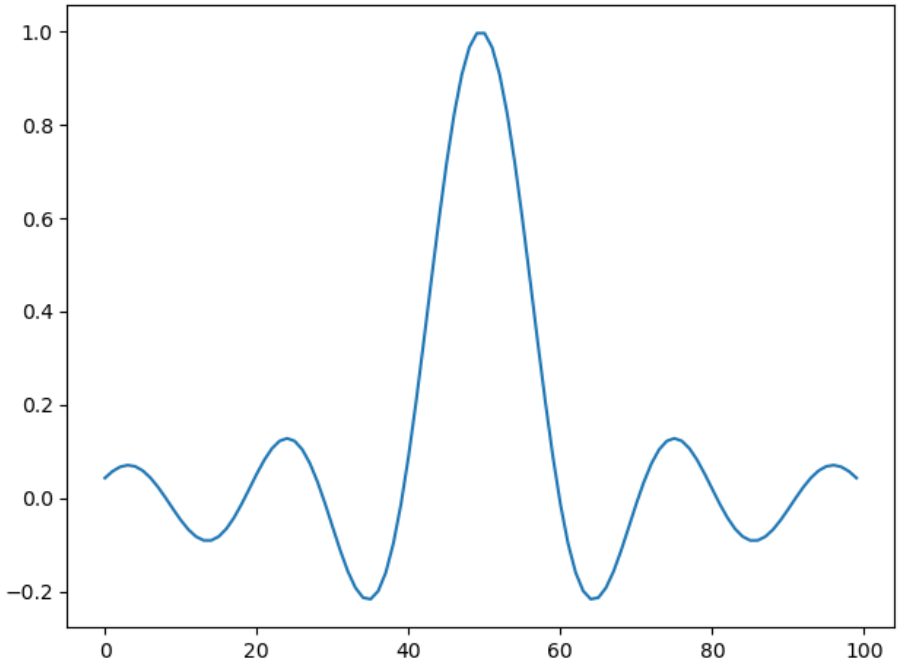

Figure 1: plot of $sin(x)/x$

References

[1] F. Black and M. Scholes, *The pricing of options and corporate liabilities*, Journal of Political Economy, 81 (1973), pp. 637–654, http://www.jstor.org/stable/1831029 (accessed 2022-05-28).

[2] D. Brigo and F. Mercurio, *Interest rate models-Theory and Practice: With Smile, Inflation and Credit*, vol. 2, Springer, 2006.

[3] H. M. Markowitz, *Portfolio selection*, (1952).