

ESCOLA POLITÉCNICA
PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIA DA COMPUTAÇÃO
MESTRADO EM CIÊNCIA DA COMPUTAÇÃO

DISCENTE DA SILVA

YOUR TITLE IN ENGLISH HERE

Porto Alegre
2023

PÓS-GRADUAÇÃO - *STRICTO SENSU*



Pontifícia Universidade Católica
do Rio Grande do Sul

YOUR TITLE IN ENGLISH HERE

DISCENTE DA SILVA

Master Thesis submitted to the Pontifical Catholic University of Rio Grande do Sul in partial fulfillment of the requirements for the degree of Master in Computer Science.

Advisor: Prof. Beltrano(a) Dias
Co-Advisor: Prof. Ciclano(a) de Farias

**FICHA
CATALOGRÁFICA**

DISCENTE DA SILVA

YOUR TITLE IN ENGLISH HERE

This Master Thesis has been submitted in partial fulfillment of the requirements for the degree of Master in Computer Science of the Computer Science Graduate Program, School of Technology of the Pontifical Catholic University of Rio Grande do Sul

Sanctioned on Janeiro 01, 2021.

COMMITTEE MEMBERS:

Prof^a. Dr^a. Avaliador(a) DOIS (PPGCC/PUCRS)

Prof. Dr. Avaliador(a) UM (PPGCC/PUCRS)

Prof. Ciclano(a) de Farias (PPGCC/PUCRS- Co-Advisor)

Prof. Beltrano(a) Dias (PPGCC/PUCRS - Advisor)

Dedico este trabalho a meus pais.

“The art of simplicity is a puzzle of complexity.”

(Douglas Horton)

ACKNOWLEDGMENTS

À lorem ipsum, dolor sit amet consetetur sadipscing elitr sed diam...

SEU TÍTULO EM PORTUGUÊS AQUI

RESUMO

Seu resumo em português aqui. Lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita. kasd gubergren no sea takimata sanctus est Lorem ipsum dolor sit amet Lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at.

Palavras-Chave: Lorem, ipsum, dolor, sit, amet.

YOUR TITLE IN ENGLISH HERE

ABSTRACT

Your abstract in English here. lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita kasd gubergren no sea takimata sanctus est lorem ipsum dolor sit amet lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at

Keywords: lorem, ipsum, dolor, sit, amet.

LIST OF FIGURES

Figure 1.1 – This is a figure with a very long caption which looks ugly in the corresponding list of figures. Fortunately, there is an optional parameter for a shorter replacement of this monstrosity	16
---	----

LIST OF TABLES

LIST OF ALGORITHMS

Algorithm 1.1 – An algorithm with an optional, shorter caption	17
--	----

LIST OF ACRONYMS

ABC – aaaaa bbbbb ccccc

XYZ – lorem ipsum dolor sit

IJK – lorem ipsum dolor sit

LIST OF ABBREVIATIONS

Abrev. – Abreviatura

Inform. – Informática

LIST OF SYMBOLS

Hz – Hertz	16
π – Constante com valor aproximado de 3.1415926	16

CONTENTS

1	INTRODUÇÃO	16
1.1	PRIMEIRA SEÇÃO	17
1.1.1	SUBSEÇÃO	18
	REFERENCES	20
	APPENDIX A – Meu primeiro apêndice	21
	APPENDIX B – My second appendix	22
	ATTACHMENT A – Meu primeiro anexo	23
	ATTACHMENT B – My second attachment	24

1. INTRODUÇÃO

lorem ipsum dolor sit amet Capítulo 1 consetetur sadipscing elitr sed diam non-umy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita kasd gubergren no sea takimata sanctus est lorem ipsum dolor sit amet lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod. Ver Figura 1.1.

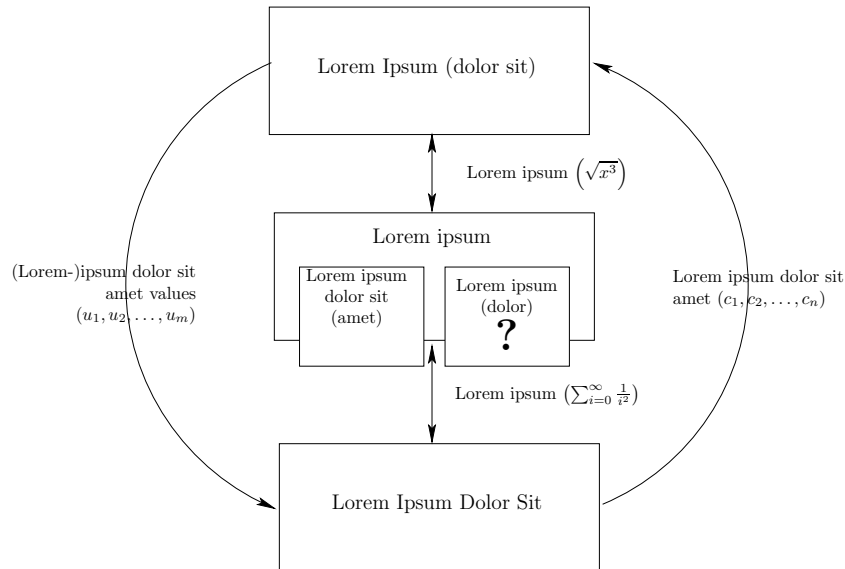


Figure 1.1 – This is a figure with a very long caption which looks ugly in the corresponding list of figures. Fortunately, there is an optional parameter for a shorter replacement of this monstrosity

tempor invidunt [9] ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita kasd gubergren no sea takimata sanctus est lorem ipsum dolor sit amet lorem ipsum [6]. O Algoritmo 1.1 mostra este processo.

tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum [3].

dolor sit [2] amet consetetur sadipscing elitr sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero [1].

1. lorem
2. ipsum
3. dolor
4. sit

```

1: function  $\sigma(i, j)$ 
2: {table lorem ipsum dolor consetetur sadipscing elitr sed ( $i, j$ )}
3: if table [ $i, j$ ].memoized then
4:   return table [ $i, j$ ].error
5: end if
6: minerror  $\leftarrow \infty$ 
7: bestt  $\leftarrow \text{nil}$ 
8: for each template  $t$  in  $T$  do
9:   error  $\leftarrow \text{allocate}(t, i, j)$ 
10:  if error < minerror then
11:    minerror  $\leftarrow$  error
12:    bestt  $\leftarrow t$ 
13:  end if
14: end for
15: table [ $i, j$ ].memoized  $\leftarrow$  true
16: table [ $i, j$ ].template  $\leftarrow$  bestt
17: table [ $i, j$ ].error  $\leftarrow$  minerror
18: return minerror

```

Algorithm 1.1 – This is an algorithm with a very long caption. However, we replaced it with a shorter version in the Outline for legibility reasons

5. amet

6. consetetur

1.1 Primeira seção

lorem ipsum dolor sit $x \leq 2$ amet consetetur sadipscing elitr sed diam nonumy eirmod Seção 1.1 tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita. [4]

$$\int_0^{\infty} x^2 + \frac{\pi}{\sum_{i=0}^n \frac{1}{i^2}} \quad (1.1)$$

kasd gubergren no sea Equação (1.1) takimata sanctus est lorem ipsum dolor sit amet lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod. [8]

amet lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod. [7]

1.1.1 Subseção

dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero.

lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita kasd gubergren no sea takimata sanctus est lorem ipsum dolor sit amet lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod.

tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita kasd gubergren no sea takimata sanctus est lorem ipsum dolor sit amet lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero:

- lorem
- ipsum
- dolor
- sit
- amet
- consetetur

Subsub

lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita. [5]

$$L(i, j, w, h) = \begin{cases} E(i, w, h) & i = j \\ \min \left(\min_{k=i}^{j-1} \{\heartsuit(i, k, j, w, h)\}, \min_{k=i}^{j-1} \{\spadesuit(i, k, j, w, h)\} \right) & i < j. \end{cases} \quad (1.2)$$

lorem ipsum dolor sit amet consetetur sadipscing elitr sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita kasd gubergren no sea takimata sanctus est lorem ipsum dolor sit amet lorem ipsum dolor sit amet consetetur sadipscing

elit sed diam nonummy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita kasd gubergren no sea takimata sanctus est lorem ipsum dolor sit amet lorem ipsum dolor sit amet consetetur sadipscing elit sed diam nonummy eirmod tempor invidunt ut labore et dolore magna aliquyam erat sed diam voluptua at vero eos et accusam et justo duo dolores et ea rebum stet clita kasd gubergren no sea takimata sanctus est lorem ipsum dolor sit amet.

De acordo com Autor (2011, p. 19):

ut wisi enim ad minim veniam quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat dui autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio

dui autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue dui dolore te feugait nulla facilisi lorem ipsum dolor sit amet consectetur adipiscing elit sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

ut wisi enim ad minim veniam quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat dui autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue dui dolore te feugait nulla facilisi.

nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum lorem ipsum dolor sit amet consectetur adipiscing elit sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat ut wisi enim ad minim veniam quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

REFERENCES

- [1] Atkins, B. C. "Adaptive photo collection page layout". In: International Conference on Image Processing, 2004, pp. 2897–2900.
- [2] Bentley, J. "The most beautiful code I never wrote". In: *Beautiful Code: Leading Programmers Explain How They Think*, Oram, A.; Wilson, G. (Editors), Sebastopol, CA: O'Reilly & Associates, Inc., 2007, chap. 3, pp. 29–40.
- [3] Cormen, T. H.; Leiserson, C. E.; Rivest, R. L.; Stein, C. "Introduction to Algorithms, Second Edition". Cambridge, MA: The MIT Press, 2001, 1184p.
- [4] de Oliveira, J. B. S. "Two algorithms for automatic document page layout". In: Proceedings of the eighth ACM symposium on Document engineering, 2008, pp. 141–149.
- [5] Goldenberg, E. "Automatic layout of variable-content print data", Master's Thesis, School of Cognitive & Computing Sciences, University of Sussex, Brighton, UK, 2009, 41p.
- [6] Nagamochi, H.; Abe, Y. "An approximation algorithm for dissecting a rectangle into rectangles with specified areas", *Discrete Appl. Math.*, vol. 155, 2007, pp. 523–537.
- [7] Piccoli, R. F. B. "Um algoritmo determinístico para adaptação automática de documentos de conteúdo variável", Master's Thesis, Faculdade de Informática – PUCRS, Porto Alegre, RS, Brasil, 2008, 104p.
- [8] Piccoli, R. F. B.; Chamun, R.; Cogo, N. C.; de Oliveira, J. B. S.; Manssour, I. H. "A novel physics-based interaction model for free document layout". In: Proceedings of the 11th ACM symposium on Document engineering, 2011, pp. 153–162.
- [9] Skiena, S. S. "The algorithm design manual". New York, NY, USA: Springer-Verlag New York, Inc., 1998, chap. 6, pp. 139–161.

APPENDIX A – MEU PRIMEIRO APÊNDICE

APPENDIX B – MY SECOND APPENDIX

ATTACHMENT A – Meu primeiro anexo

ATTACHMENT B – My second attachment



Pontifícia Universidade Católica do Rio Grande do Sul
Pró-Reitoria de Pesquisa e Pós-Graduação
Av. Ipiranga, 6681 – Prédio 1 – Térreo
Porto Alegre – RS – Brasil
Fone: (51) 3320-3513
E-mail: propesq@pucrs.br
Site: www.pucrs.br