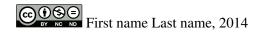ÉCOLE DE TECHNOLOGIE SUPÉRIEURE
UNIVERSITÉ DU QUÉBEC

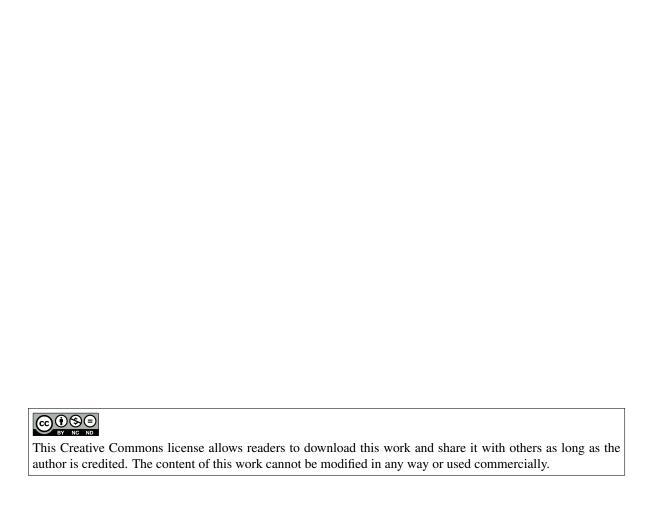THESIS PRESENTED TO
ÉCOLE DE TECHNOLOGIE SUPÉRIEURE

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY
Ph.D.

BY
First name LAST NAME

DOCUMENT TITLE

MONTREAL, "DEPOSIT DATE"

BOARD OF EXAMINERS

THIS THESIS HAS BEEN EVALUATED

BY THE FOLLOWING BOARD OF EXAMINERS:

M. First Name Last Name, thesis director
Department and institution

Mrs. First Name Last Name, co-advisor
Department and institution

M. First Name Last Name, committee president
Department and institution

M. First Name Last Name, external examiner
Department and institution

THIS THESIS WAS PRESENTED AND DEFENDED

IN THE PRESENCE OF A BOARD OF EXAMINERS AND THE PUBLIC

ON "DEFENSE DATE"

AT ÉCOLE DE TECHNOLOGIE SUPÉRIEURE

FOREWORD

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

ACKNOWLEDGEMENTS

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

FRENCH TITLE

First name LAST NAME

SUMMARY

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Mots clés: mot-clé1, mot-clé2

DOCUMENT TITLE

First name LAST NAME

ABSTRACT

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Keywords: keyword1, keyword2

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABREVIATIONS

ETS   École de Technologie Supérieure

ASC   Agence Spatiale Canadienne

LISTE OF SYMBOLS AND UNITS OF MEASUREMENTS

a   Première lettre de l'alphabet

A   Première lettre de l'alphabet en majuscule

INTRODUCTION

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Figure 0.1   Test of a long caption, using a framebox and a parbox
to constrain the caption.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac,

nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

CHAPTER 1

LONG CHAPTER TITE, WITH LINEBREAK. LOREM IPSUM DOLOR SIT AMET, CONSECTETUR ADIPISCING ELIT. PELLENTESQUE JUSTO JUSTO, PORTA SAGITTIS FEUGIAT EGET, ORNARE RHONCUS LIGULA. NUNC NON ODIO SED LACUS RUTRUM RHONCUS.

1.1 Layout tests

In this sections, several environments are presented.

1.1.1 Listing tests

Presentation of the main listing environments: enumerations and lists.

1.1.1.1 Enumerations: enum environment

Enum environment test:

a. test 1

b. test 2

1.1.1.2 Lists: itemize environment

Test of the itemize environment

- test 1

- test 2

1.1.2 Equations tests

Layout of the equations:

$$\beta = 8 \tag{1.1}$$

$$\gamma = \alpha \times 3 \tag{1.2}$$

1.2 Second section

Example of a second section, to test the layout in the table of contents.

SECOND CHAPTER

2.1 Table layout tests

Tables have the same constraints than the figures, except for the caption that has to be on top.

Table 2.1   Test of a long table caption, with linebreak.

titre	titre	titre	titre	titre	titre	titre	titre
blá	blá	blá	blá	blá	blá	blá	blá
blá	blá	blá	blá	blá	blá	blá	blá
blá	blá	blá	blá	blá	blá	blá	blá
blá	blá	blá	blá	blá	blá	blá	blá
blá	blá	blá	blá	blá	blá	blá	blá
blá	blá	blá	blá	blá	blá	blá	blá

2.2 References test

2.2.1 References to the bibliography

Reference from the bibliography Arica and Yarman-Vural (2002).

2.2.2 References to the list of references "refs"

References from the list of references "refs", declared at the beginning of the document mAuth1 (2001).

2.2.3 References to a label of the document

Reference to a Figure associated to a label: Figure 0.1.

2.2.4   URL references

2.2.4.1   Test of "href"

Href is used to integrate a link to a text: Link to the template page..

2.2.4.2   Test de url

Url is used to format a clickable link: http://www.etsmtl.ca/Etudiants-actuels/Cycles-sup/Realisation-etudes/ Guides-gabarits.

CHAPTER 3

EXAMPLE OF A THESIS BY ARTICLE, WITH INTEGRATED ARTICLE

First name Last name[1], First name Last name[1]

[1] Département de Génie Mécanique, École de Technologie Supérieure,

1100 Notre-Dame Ouest, Montréal, Québec, Canada H3C 1K3

Article soumis à la revue « Vecteur environnement » en septembre 2010.

3.1 Section 1

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

CONCLUSION

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

APPENDIX EXAMPLE

1. First section of the appendix

1.1 Figures in annexes

Figure-A I-1   Figure in an appendix.

In the annexes, the figures are declared in the same way. Their numbering changes automatically (e.g. Figure I-1).

1.1.1 Tables in annexes

Table-A I-1   Table in an appendix.

titre	titre	titre	titre	titre	titre	titre	titre
blá	blá	blá	blá	blá	blá	blá	blá
blá	blá	blá	blá	blá	blá	blá	blá
blá	blá	blá	blá	blá	blá	blá	blá
blá	blá	blá	blá	blá	blá	blá	blá
blá	blá	blá	blá	blá	blá	blá	blá
blá	blá	blá	blá	blá	blá	blá	blá

Same behaviour for the tables (e.g., Table I-1).

BIBLIOGRAPHY

Arica, N. and F. T. Yarman-Vural. 2002. "Optical Character Recognition for Cursive Handwriting". *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 24, n° 6, p. 801-813.

Avidan, S. 2007. "Ensemble Tracking". *IEEE Trans. Pattern Anal. Mach. Intell.*, vol. 29, n° 2, p. 261–271.

Baldi, P. and Y. Chauvin. 1994. "Smooth On-line Learning Algorithms for Hidden Markov Models". *Neural Computation*, vol. 6, n° 2, p. 179-190.

Ballard, D. H. 1981. "Generalizing the Hough transform to detect arbitrary shapes". *Pattern Recognition*, vol. 13, n° 2, p. 111-122.

Bhatia, P. 2010. "Strategy for detection and localization of evil-twin transmitters in wireless networks". Master of computer science, Ottawa, Carleton University, 43 p.

Binsztok, H. and T. Artières. 2005. "Learning Model Structure from Data: An Application to On-Line Handwriting". *Electronic Letters on Computer Vision and Image Analysis*, vol. 5, n° 2, p. 30-46.

Board of Trustees of the University of Illinois. 2009. "GridShib". In *GridShib*. En ligne. <http://gridshib.globus.org/test/test/test/test/test/test/test/test/test/test/test/test/ test/test/test/test/>. Consulté le 11 novembre 2011.

Bojovic, M. and M. D. Savic. 2000. "Training of Hidden Markov Models for Cursive Handwritten Word Recognition". In *Proceedings of 15th International Conference on Pattern Recognition*.

Brands, S. and D. Chaum. 15-19 Mai 1993 1994. "Distance-bounding protocols". In *Advances in Cryptology - EUROCRYPT '93, Workshop on the Theory and Application of of Cryptographic Techniques*. (Lofthus, Norway 1994), p. 344-359. Secaucus, NJ, USA: Springer-Verlag.

Britto, A. S., R. Sabourin, E. Lethelier, F. Bortolozzi, and C. Y. Suen. 2000. "Improvement in Handwritten Numeral String Recognition by Slant Normalization and Contextual Information". In *Proceedings of Seventh International Workshop on Frontiers in Handwriting Recognition, (IWFHR-7)*. p. 601-606.

Britto, A. S., R. Sabourin, F. Bortolozzi, and C. Y. Suen. 2003. "Recognition of Numeral Strings Using a Two-Stage HMM-Based Method". *Internation Journal on Document Analysis and Recognition*, vol. 5, n° 2, p. 102-117.

Britto, A. S. 2001. "A Two-Stage HMM-Based Method For Recognizing Handwritten Numeral Strings". PhD thesis, Pontifícia Universidade Católica do Paraná.

14

Britto, A. S., R. Sabourin, F. Bortolozzi, and C. Y. Suen. 2004. "Foreground And Background Information in an HMM-Based Method for Recognition of Isolated Characters and Numeral Strings". In *9th International Workshop on Frontiers in Handwriting Recognition (IWFHR-9)*. (Tokyo, Japan 2004), p. 371-376.

Eaton, J. W. 2004. *Matlab*, version 7.0.1. Logiciel. Lieu de publication : Nom de l'éditeur.

Harris, T. 2002. "How Circuit Breakers Work". En Ligne. <http://electronics.howstuffworks.com/circuit-breaker2.htm>. Consulté le 12 février 2013.

Sandou, G. and S. Olaru, 2009. *Particle swarm optimization based NMPC: an application to district heating networks*, p. 551 - 9. Berlin, Germany, ed. Test.

Viola, P. and M. Jones. 2001. "Robust real-time face detection". In *Proceedings of the IEEE International Conference on Computer Vision*. (Vancouver, BC, United states 2001), p. 747–. Test: Institute of Electrical and Electronics Engineers Inc.

ÉTS. 2010. "Site web de l'ÉTS". <http://www.etsmtl.ca>.

LIST OF REFERENCES

mAuth1. 2001. "mTit1". *mJour1*, vol. 1, n° 1, p. 42-43.