

Title

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Abstract

Abrégé

Acknowledgements

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List of Acronyms

API	application programming interface.
CMOS	complementary metal–oxide–semiconductor.
DC	directional coupler.
DMM	Diagonal Matrix Multiplication.
FLOP	floating point operation.
FLOPS	floating point operation per second.
FoM	figure of merit.
GPU	graphical processing unit.
IL	insertion loss.
ML	machine learning.
MNIST	modified national institute of standards and technology.
MSE	mean squared error.
MZI	Mach-Zehnder interferometer.
NN	neural network.

OMM optical matrix multiplication.

ONN optical neural network.

PCA principle component analysis.

PS phase shifter.

ReLU rectified linear unit.

SVD singular value decomposition.

Chapter 1

Introduction

1.1 Thesis objective

1.2 Thesis organization

1.3 Research contributions

1.3.1 Journal publications

1.3.2 Paper contributions

1.3.3 Open source code contribution

Chapter 2

Chapter Two

2.1 Section 1

2.1.1 Subsection 1

Subsubsection 1

Chapter 3

A Third Chapter

Chapter 4

Another Chapter

Chapter 5

Conclusion

Bibliography

Appendix A

Equations

$$E = M \cdot C^2 \tag{A.1}$$

Appendix B

Tables