



MASTER OF SCIENCE
IN ENGINEERING

Hes·SO

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Master of Science HES-SO in Engineering

Orientation: Information and Communication Technologies (ICT)

IMPROVING COSTS, SAFETY AND LIVENESS IN BLOCKCHAIN SYSTEMS

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Declaration of honor

I, undersigned, Nicolas Huguenin, hereby declare that the work submitted is the result of a personal work. I certify that I have not resorted to plagiarism or other forms of fraud. All sources of information used and the author quotes were clearly mentioned.

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Validation

Accepted by the HES-SO//Master (Switzerland, Lausanne) on a proposal from:

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Abstract

TODO: add abstract

Keywords: Algorithms; Blockchain; Distributed Systems; Sharing Economy

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1 | Introduction

1.1 Context

The Ethereum blockchain is meant to move from the current Proof-of-Work (PoW) consensus protocol to a Proof-of-Stake (PoS) one. Multiple teams are currently researching ways to describe, and implement such a protocol. One of this team, lead by Vlad Zamfir, is working on a protocol family called Correct by Construction (CBC) Casper. CBC-Casper

This project takes place **TODO: talk about ethereum, casper, the different problems that arise when we talk about PoS and such**

1.2 Objectives

TODO: write about the tradeoff triangle, the strategies, the liveness and all that jazz
the tradeoff triangle, the strategies, the liveness and all that jazz

1.3 Contents

TODO: explain what is in this

2 | Contents

TODO: add contents

3 | Conclusion

TODO: insert conclusion

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Glossary

CBC Correct by Construction. 1

PoS Proof-of-Stake. 1

PoW Proof-of-Work. 1