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A Comparative Study	OF COUNTERMEASUR FACE AUTHENTICAT	RES TO DETECT SPO TION SYSTEMS	OOFING ATTACKS IN

Campinas 2013

Universidade Estadual de Campinas Faculdade de Engenharia Elétrica e de Computação

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A Comparative Study of Countermeasures to Detect Spoofing Attacks in Face Authentication Systems

Qualificação de Mestrado apresentada na Faculdade de Engenharia Elétrica e de Computação como parte dos requisitos exigidos para a obtenção do título de Mestre em Engenharia Elétrica. Área de concentração: Computação

Orientador: Professor Doutor José Mario De Martino

Este exemplar corresponde a versão final do exame de qualificação apresentado pelo aluno, e orientado pelo Prof. Dr. José Mario De Martino

Campinas 2013

Faça aqui sua dedicatória.



Acknowledgment

Text

A maravilhosa disposição e harmonia do universo só pode ter tido origem segundo o plano de um Ser que tudo sabe e tudo pode. Isto fica sendo a minha última e mais elevada descoberta.

Isaac Newton

Abstract

User authentication is an important step to protect information and in this field face biometrics is advantageous. Face biometrics is natural, easy to use and less human-invasive. Unfortunately, recent work has revealed that face biometrics is vulnerable to spoofing attacks using low-tech equipments. Countermeasures have been proposed in order to mitigate this vulnerabilities. However several works in the literature present evaluations using different metrics and in private database making the comparison of countermeasures a difficult task. The main goal of this masters project is to provide a comparative study of countermeasures against face spoofing attacks.

Key-words: Antispoofing, Liveness detection, Countermeasure, Face Recognition, Biometrics

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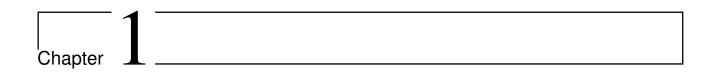
Acronyms



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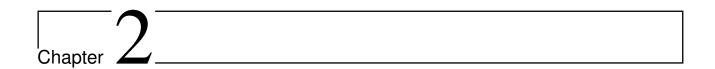
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Introduction

- 1.1 Scope and Contributions
- 1.2 Organization of the Thesis



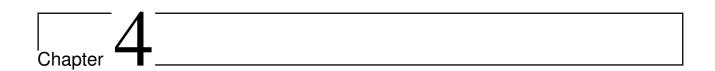
Biometrics

- 2.1 Introduction to Biometric Systems
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- 3.2.2 Difference in motion patterns
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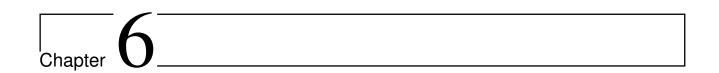


Developed Countermeasures



The Comparative Study

- 5.1 Databases Permeability
- 5.2 Evaluation Protocol
- 5.2.1 Intra Database Test Protocol
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- 5.2.3 Evaluation Metrics



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