

TABLE DES MATIERES

Glossary	3
Intro	3
1. Context	3
1.1. Internship context	3
1.1.1. Monash University.....	3
1.1.2. ESCE Department	3
1.1.3. The team.....	3
1.2. Medical background.....	3
1.2.1. Preterm Neonates' Immaturity	3
1.2.2. Respiratory Distress Syndrome	3
1.2.3. RDS Therapies.....	3
1.3. The Project	3
1.3.1. Purpose.....	3
1.3.2. Study design	3
1.3.3. Procedure	3
1.3.4. Stages of Analysis	3
2. Pre-processing	3
2.1. Purpose.....	3
2.2. Crying removing	3
2.2.1. Learning features on crying sections.....	3
2.2.1.1. Labelling the crying sections thanks to annotators.....	4
2.2.1.2. Analysis of differences between CSs and NCSs	4
2.2.1.2.1. Spectrogram.....	4
2.2.1.2.2. Power spectrum	4
2.2.1.2.3. Overview of other Spectral Features Differences	4
2.2.1.3. Threshold Establishing.....	4
2.2.2. Crying Removal.....	4
2.2.3. Results	4
2.3. Noise Filtering.....	5
2.3.1. Butterworth Filter.....	5
2.3.2. Implementation.....	5
2.3.3. Results	5
2.4. Discussion	5
3. Features extraction	5
3.1. Methods	5

3.1.1.	Features on Power Spectrum	5
3.1.2.	Power Spectrum Fit	5
3.1.2.1.	MAF: Moving Average Filter	5
3.1.2.2.	Gaussian Mixture Model	5
3.1.3.	MFCC Coefficients	5
3.1.4.	LPC Coefficients	5
3.2.	Results	5
3.3.	Discussion	5
Conclusion		5