Speaker Verification Using Adapted Gaussian Mixture Models

Dissertation proposal

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Abstract

This dissertation is a reproduction of MIT Lincoln Laboratory's Gaussian Mixture Model (GMM)-based speaker verification system used successfully in several NIST Speaker Recognition Evaluations (SREs) implemented by Douglas A. Reynolds. The system is built around the likelihood ratio test for verification, using simple but effective GMMs for likelihood functions, an Universal Background Model (UBM) for alternative speaker representation, and a form of Bayesian adaptation to derive speaker models from the UBM. Additionally there is an attempt to improve the system using fractional principal component analysis (FPCA), a technique never tried before in SREs.

Contents

1 Introduction

This part provides an overall introduction of your work, including related work of your proposal.

1.1 Related work

This part talks about related work of your proposal.

2 Proposal Topic I

The content of your proposal. Each topic occupies one section, each with their own conclusion and future work.

3 Proposal Topic II

The content of your proposal. Each topic occupies one section, each with their own conclusion and future work.

4 Research plan

Provide an overview of what you have done and what need to be done.

4.1 Plan for completion of the research

Table **??** shows my plan for completion of the research.

Timeline	Work	Progress
	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	completed
Nov. xxxx	XXXXXXXXXXXXXXXXXXXXXXXXXXX	ongoing
Jan. xxxx	Thesis writting	
Feb. xxxx	Thesis defense	

Table 1: Plan for completion of my research

Thus, I plan to defend my thesis in XXX XXXX.