



## Master Thesis Defense

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Title:	An Automated Multimodal Face Recognition System Based on Fusion of Face and Ear
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## ABSTRACT

This thesis presents an automated system for the detection and recognition of humans using a multimodal approach. Face recognition is a biometric method which has in recent years become more relevant and needed. With heavy research, it is achieving respectable recognition rates and is becoming more mature as a technology. It is even being deployed in certain situations such as with passports and credit cards. Our multimodal biometric system uses both a person's face and ear to improve the recognition rate of individuals. By combining these two biometric systems we are able to achieve significantly improved recognition rates, as compared to using a unimodal biometric system.

The system is totally automated, with a trained detection system for face and one for ear. We look at recognition rates for both face and ear, and then at combined recognition rates, and see that we have significant performance gains from the multimodal approach. We also discuss many existing methods of combining biometric input and the recognition rates that each achieves.

Experimental results indicate that a multimodal biometric system has higher recognition rates than unimodal systems. This type of automated biometric recognition system can easily be used in installations requiring person identification such as person recognition in mug shots. It can also be used by security agencies and intelligence agencies requiring robust person identification systems.