

Project Id	107
Project Title	Detecting and Tracking Lips in Unconstrained Imagery
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Additional Faculty	
Faculty Department	Electrical Engineering
Project Description	<p>When combined with acoustical speech information, visual speech information (lip movement) significantly improves Automatic Speech Recognition (ASR) in acoustically noisy environments. Previous research has demonstrated that visual modality is a viable tool for identifying speech. However, the visual information has yet to become utilized in mainstream ASR systems due to the difficulty in accurately tracking lips in real-world conditions. In this project, student will develop a lip detection and tracking system in visually challenging environment.</p> <p>The applications include improved automatic speech recognition, and biometric speaker identification.</p>
Interdisciplinary Nature Description	The subject of computer vision is interdisciplinary in nature. It is closely related to a wide range of fields including signal processing, pattern recognition, machine learning, physics, neurobiology, statistics.
Links	
Number of Honors Students Requested	2
Applicable Majors	CPE, EE, CSC, ENGR, MATH, MATH, STAT, PHYS
desired_res	This project will train students in the field of digital image processing, computer vision and pattern recognition. Students with basic knowledge in signal processing and good math skills could make a contribution to this project.
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