



Piexl Club

You are invited to attend a lecture by

הנכם מוזמנים להרצאה של

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Dept. of Electrical Engineering
Technion

בנושא:

Region-of-Interest based Adaptation of Video to Mobile Devices

The goal of this work is to develop methods for the adjustment of standard resolution video to the smaller resolution used in mobile devices. Instead of scaling the whole frame, we should display only the Region of Interest (ROI) for better user-perceived quality.

We focus on news broadcasting and interview scenes. The ROI is defined by a rectangle around the speaker's face. For every scene, the ROI is detected and tracked up to its end. We use a pan, tilt and zoom camera model and estimate its parameters in the frequency domain. Complexity is reduced using the slice-projection theorem and the Mellin transform. Performance analysis of the estimation is given. The estimated parameters are used for ROI tracking in a jitter less way. We further improve tracking by using Kalman or particle filtering. We present a tool for detecting the ROI from a single point indicated by an editor, using a skin-color detector combined with region growing. Another tool developed is for detecting the current active speaker. We tested methods solely based on visual information and a method based also on the soundtrack. The correlation between the time instants of the events in video and audio is used to detect the current active speaker. Demonstrations will be included.

* M.Sc. Research under the supervision of Prof. David Malah

* סטודנט לתואר שני בהנחיית פרופסור דוד מלאך.

The lecture will take place on Tuesday, 15/9/2009
at 11:30 in room 815
Electrical Eng. Building
Technion City

ההרצאה תתקיים ביום שלישי, 15/9/2009
בשעה 11:30 בחדר 815
בבניין הפקולטה להנדסת חשמל
קריית הטכניון

כיבוד קל יוגש לפני ההרצאה

