

システム情報工学研究科修士論文概要

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| 年 度 | 平成 23 年度 | 学位名 | 修士(工学) |
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| 論文題目 A Study on Emotion Recognition System based on Facial Expression and Vital Data (表情と生理情報を用いた感情推定システムに関する研究) | | | |
| 論文概要 <p>Emotion recognition is important in human-human and human-machine interaction. To assist counselors in analyzing subjectively the emotion of the person who seeks for counseling, an emotion recognition system is needed. In order to develop the system, an emotion recognition model is first needed. The purpose of this study is to develop an emotion recognition model to determine whether the user is in positive or negative valence (in pleasant or unpleasant condition). The emotion recognition system uses information from facial expression, skin potential level and R-R interval of the heartbeat. A face feature index is introduced in the emotion recognition. It takes the ratio of mouth width to the sum of mouth width and the maximum eye-to-mouth distance. An experiment eliciting laughter using video clips was performed. The video clips in the test were selected by the test subjects. Three subjects participated in the experiment, where a full high definition video recording was performed at 30 frame per second, and the skin potential level and R-R interval of the heartbeat were sampled at 1kHz during the experiment. As the result, we can see that there are difference between the laughing face and the neutral face using the face feature index. However, the difference of laughing face and neutral data cannot be found using the R-R interval of the heartbeat and skin potential level. This implies that R-R interval and the skin potential level analysis might need improvement. Other vital data might be needed to improve the accuracy of the system. In conclusion, using the face feature index, we can see the difference between the laughing face and neutral face.</p> | | | |
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