

## 【文献調査】

# Automatic Stress Classification With Pupil Diameter Analysis

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2017年8月30日

## 1 タイトル

瞳孔径分析による自動ストレス分類

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## 3 出典

International Journal of Human-Computer Interaction, Vol.30, No.3, pp.220-236, 2014

## 4 アブストラクト

この論文では、瞳孔の動きを心理的ストレスに関連付けるためのウェーブレット変換及びニューラルネットワークに基づく手法を提案している。提案手法では、シミュレートされた運転課題時の瞳孔径及び電気皮膚活動を記録することで評価を行った。自己報告のアンケートの収集も行った。参加者は、運転課題のみを含むベースラインランを実行した後、アラート音が鳴っている際の運転、2人の人間に運転の評価をされる運転及びこの両方の3つのストレスランを行った。自己報告及び瞳孔系は、指標付けされたストレス操作に成功し、これらの指標間に有意な相関が発見された。しかし、皮膚電気活動は変化しなかった。訓練後、4方向並列ニューラルネットワーク分類器は、与えられた未知の瞳孔径が79.4%の精度で、4つの実験のうちの1つから来たかどうかを推測可能であった。本研究は、瞳孔径がストレス検出のための優れた識別力を有することを示した。

## 5 キーワード

Simulation, Pupil diameter, Wavelet transform, Neural networks

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