

Useful Speech Features for Characterizing
Healthy Control, MCI and Dementia
(研究の成果発表)

メタデータ	言語: eng 出版者: 公開日: 2020-05-13 キーワード (Ja): キーワード (En): 作成者: Ferdous, Nazia, Nishimura, Masafumi メールアドレス: 所属:
URL	http://hdl.handle.net/10297/00027475

Useful Speech Features for Characterizing Healthy Control, MCI and Dementia

Nazia Ferdous(情報学専攻), Masafumi Nishimura (Department of Informatics, Graduate School of Integrated Science and Technology, Shizuoka University)

Dementia affects a person's ability to perform daily activities such as, problem-solving, thinking abilities, etc. According to some researches, speech is very useful for recognizing the disease in the early stage. In this study, we attempt to identify speech related features such as, linguistic and prosodic, to distinguish between healthy control, MCI and dementia groups. We have used 45 speech data (15 subjects per group) gathered from elderly Japanese people and extracted the features. Two-way ANOVA followed by post-hoc analysis was done to check which feature shows significant differences between the three groups and according to the analysis, response length and number of utterance (all $p < 0.05$) shows significant difference, although response length was not useful in the classification. For automatic classification, AdaBoost with decision tree classifier was used which shows 67% cross-validation accuracy by using the combination of filler ratio, question ratio and number of utterances.