

different Physiological features Sarah Shamsi (sshamsi@mail.sfsu.edu) MS Embedded Electrical & Computer Systems Faculty Advisor: Dr. Xiaorong Zhang, xrzhang@sfsu.edu, Assistant Professor Dept. Computer Engineering Analysis Processing

Motivation

Stutterers: 1% of the World's Population

•Stuttering - a speech fluency disorder causes still not clear

• Role of Stress, Anxiety & Nervousness unknown. •Autonomic Nervous System(ANS) controls stress & anxiety by activating & deactivating sympathetic & parasympathetic nervous system •Limitation in current research: 1) Experiments only performed in controllable environments; 2) Existing data analysis methods are relatively simple

Research Goals

• Apply advanced machine learning & pattern analysis techniques to the stuttering research

•Understand the relations between stuttering, stress and physiological changes

Methods

SubjectsTasksTypeListenerStutterer-2Reading Books-2Difficult, Easy textFriends StrangersStutterer-2One to one Conversation-3Interview Questions & NarrationFriends StrangersStutterer-2One to one Conversation-3Interview Questions & NarrationFriends Strangers					
Stutterer-2 Non- Stutterer-2Reading Books-2Difficult, Easy textFriends StrangersStutterer-2 Non- Stutterer-2One to one Conversation-3Interview Questions & NarrationFriends StrangersStutterer-2One to one Conversation-3Interview Questions & NarrationFriends StrangersImage: Stutterer-2One to one Conversation-3Interview Questions & NarrationFriends StrangersImage: Stutterer-2Image: Stutterer-2Image: Stutterer-2Image: Stutterer-2Image: Stutterer-2Image: Stutterer-3Image: Stutterer-3Image: Stutterer-3Image: Stutter	Subjects	Tasks	Туре	Listener	
Stutterer-2 One to one Interview Friends Stutterer-2 One to one Questions Strangers Image: Stutterer-2 Image: Stutterer-2 Image: Stutterer-2 Image: Stutterer-2 Image: Stutterer-2 Image: Stutterer-2 Image: Stutterer-2 Image: Stute-2 Image: Stute-2 Image: Stutterer-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stutterer-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image: Stute-2 Image:	Stutterer-2 Non- Stutterer-2	Reading Books-2	Difficult, Easy text	Friends Strangers	
Analyse ECG & GSR signal for stress	Stutterer-2 Non- Stutterer-2	One to one Conversation-3	Interview Questions & Narration	Friends Strangers	

