hcmlab / **ssj**

Social Signal Processing for Android https://hcmlab.github.io/ssj

#signal-processing #android #behavior-analysis #classification #machine-learning #sensors #mobile

936 commits | **2** branches | **17** releases | **6** contributors | GPL-3.0

Branch: **master** | **New pull request** | **Create new file** | **Upload files** | **Find file** | **Clone or download**

ionut-damian readme update — Latest commit `fbc6581` on 8 Feb

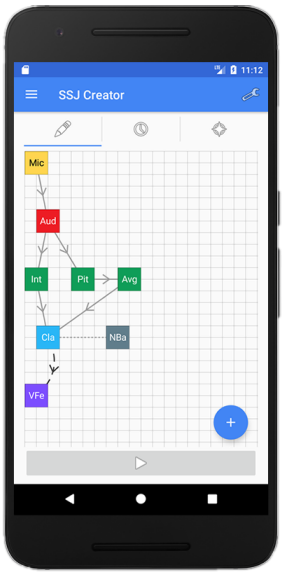
.idea	updated copyright and readme	8 months ago
assets	img update	2 months ago
demo	prepping new release	3 months ago
gradle/wrapper	prepping new release	3 months ago
libssj	cross-pipe sync update	2 months ago
licenses	Added ffmpeg reader and writer	7 months ago
models	fixed error in inception.trainer	7 months ago
ssjcreator	fixed scroll bug in console view	2 months ago
.gitignore	gitignore update	2 years ago
LICENSE	Initial commit	2 years ago
PRIVACY	added privacy policy	2 years ago
README.md	readme update	2 months ago
bintrayv1.gradle	prepping new release	3 months ago
build.gradle	prepping new release	3 months ago
gradlew	SSJ v0.2.7	2 years ago
gradlew.bat	SSJ v0.2.7	2 years ago
installv1.gradle	prepping new release	3 months ago
settings.gradle	prepping new release	3 months ago
version.gradle	prepping new release	3 months ago

README.md

Social Signal Processing for Android

SSJ is an extensible android framework for social signal processing in an out of lab envirnoment. It packages common signal processing tools in a flexible, mobile friendly Java library which can be easily integrated into Android Apps.

Features



- Realtime signal processing using independent components as processing steps in a pipeline
- Synchronized data streams
- Support for most standard android sensors e.g. Camera, Microphone, Acceleration, GPS
- Support for external sensors via bluetooth e.g. Microsoft Band 2, Myo, Angel Sensor, Empatica
- Advanced signal processing functionality, including machine learning approaches (Neural Networks, SVM, NaiveBayes)
- On device model training capabilities (batch and online learning)
- I/O functionality: local storage, sockets, bluetooth
- Energy efficient processing thanks to advanced sleep state management and support for discrete data propagation
- Live data visualization (using GraphView library)
- SSJ Creator: Android App for building, editing and running SSJ pipelines without writing a single line of code

Download

- To use libssj in your own application, simply add the gradle dependency:

```
compile 'com.github.hcmlab:libssj:0.7.1'
```

- You can also download the latest binaries from the releases section
- SSJ Creator can be downloaded from the play store

Documentation

- White-paper: dl.acm.org | uni-augsburg.de
- Api (Javadoc): http://hcmlab.github.io/ssj/api

About

The Social Signal Processing for Java/Android (SSJ) framework is being developed at the Lab for Human Centered Multimedia of the University of Augsburg. The authors of the framework are: Ionut Damian, Michael Dietz, Frank Gaibler, Daniel Langerenken, Simon Flutura, Vitalijs Krumins, Antonio Grieco.

SSJ has been inspired by the SSI (http://openssi.net) framework. SSJ is not a one-to-one port of SSI to Java, it is an approximation. Nevertheless, it borrows a lot of programming patterns from SSI and preserves the same vision for signal processing which makes SSI great. It than packages everything in a flexible, mobile friendly Java library which can be easily integrated into Android Apps.

If you use SSJ for a research project, please reference the following paper:

- Ionut Damian, Tobias Baur, Elisabeth André, *Measuring the Impact of Multimodal Behavioural Feedback Loops on Social Interactions*, In Proceedings of International Conference on Multimodal Interaction (ICMI), ACM, 2016
  paper | BibTex | dl.acm.org

License

This library is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 3 of the License, or any later version.