

MIMICII ECG SQI

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I. OBJECTIVE

- 1) To run SQI for MIMICII's ECG (Lead II) waveforms

II. COMPLETED TASKS

A. 30 sec non-overlapped window for SQI's Median and IQR calculation

The explanation of the characteristic of MIMICII datasets are as in TableII-A. Previously, a Matlab coding to detect 'no data' for ECG, PPG and RESP have been carried out for Set I. From the output, the data have been segregated into Set II ~ Set VII. In this 8.1 progress report, SQI for all Lead II (ECG) of MIMICII has been carried out. Using the same two QRS detectors (Joachim Behar's *qrs_detect2.m* and Qinghua Zhang's *rpeak.m*), and the *Bbx_compare.m* function, the median and inter-quartile range (IQR) for 30 s non-overlapped windows SQI for Set II and Set III has been carried out. Thus, there are 14 windows for each 7-min MIMIC recordings. They histogram results for randomly taken recording are as shown in Fig.1 and Fig.2. The recordings from Set IV ~ Set VII are not done since they do not have either ECG or RESP.

Set	Characteristic of each recording	No. of recordings	Median	IQR
I	Raw MIMICII	1017	-	-
II	Have lead II (ECG), PPG and RESP	944	1	0.0426
III	Have lead II (ECG) and RESP Only	29	1	0
IV	Have PPG and RESP Only	6	-	-
V	Have ECG and PPG Only	1	-	-
VI	Have PPG Only	3	-	-
VII	No ECG, PPG and RESP	34	-	-

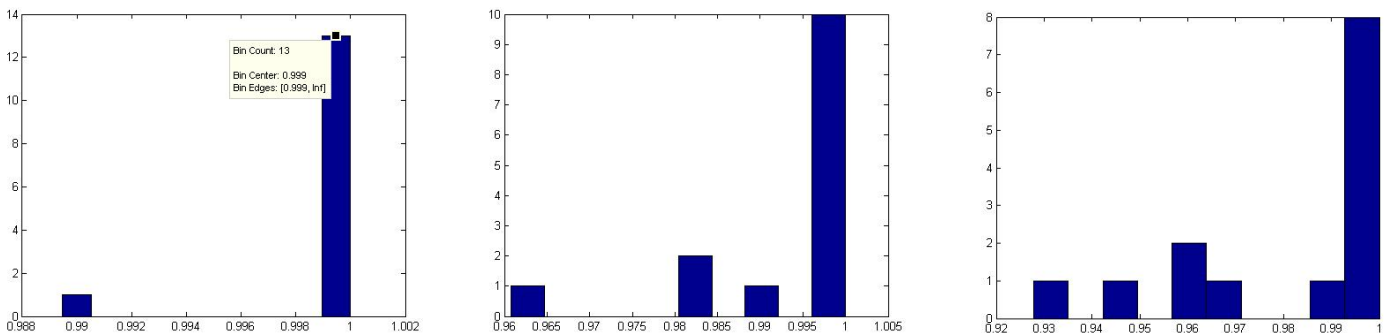


Fig. 1. Randomly taken histogram from SQI of Set II

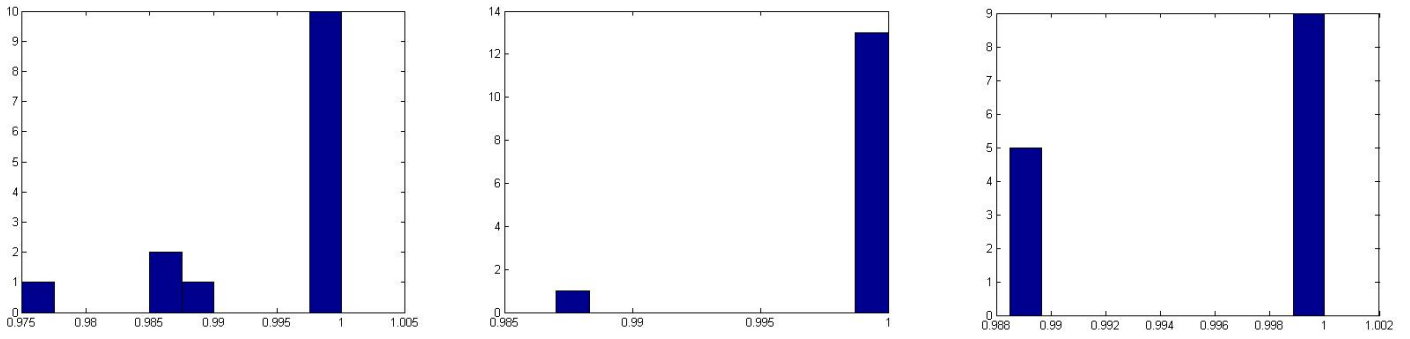


Fig. 2. Randomly taken histogram from SQI of Set III

III. CONCLUSION

The SQI's Median and IQR for MIMICII ECG recording have been done and the results show overall Median of 1.

IV. PREVIOUS REPORTS

All the progress reports are stored in <http://goo.gl/5yASrs>