

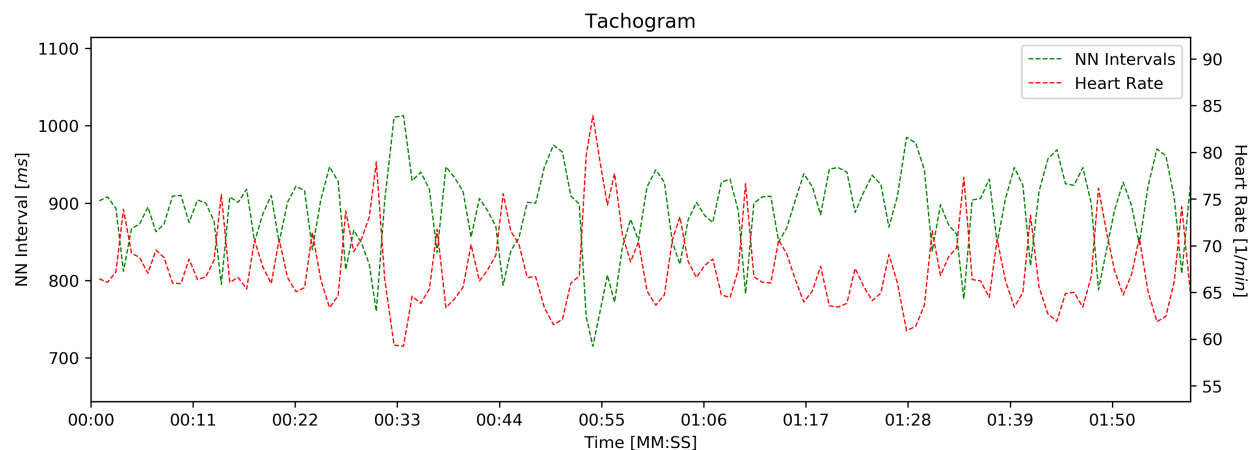
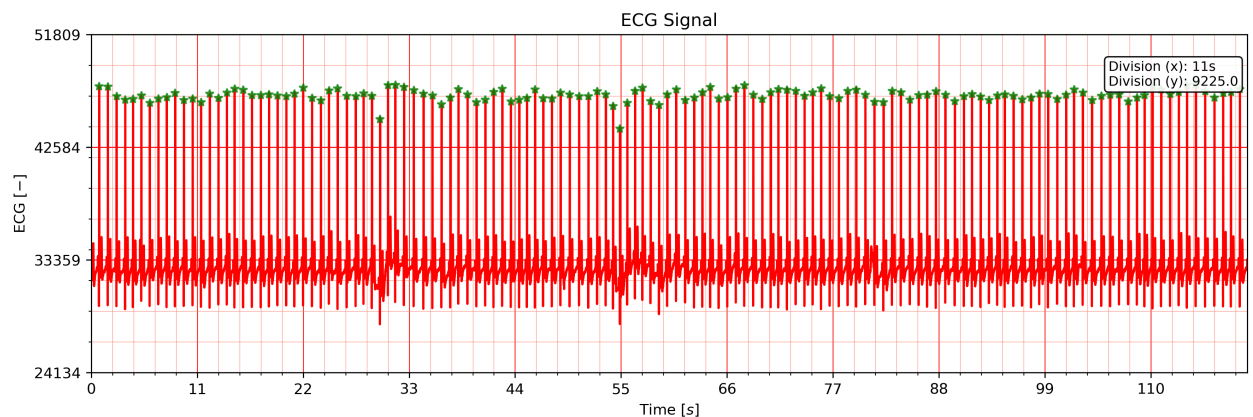
Python Toolbox for Heart Rate Variability

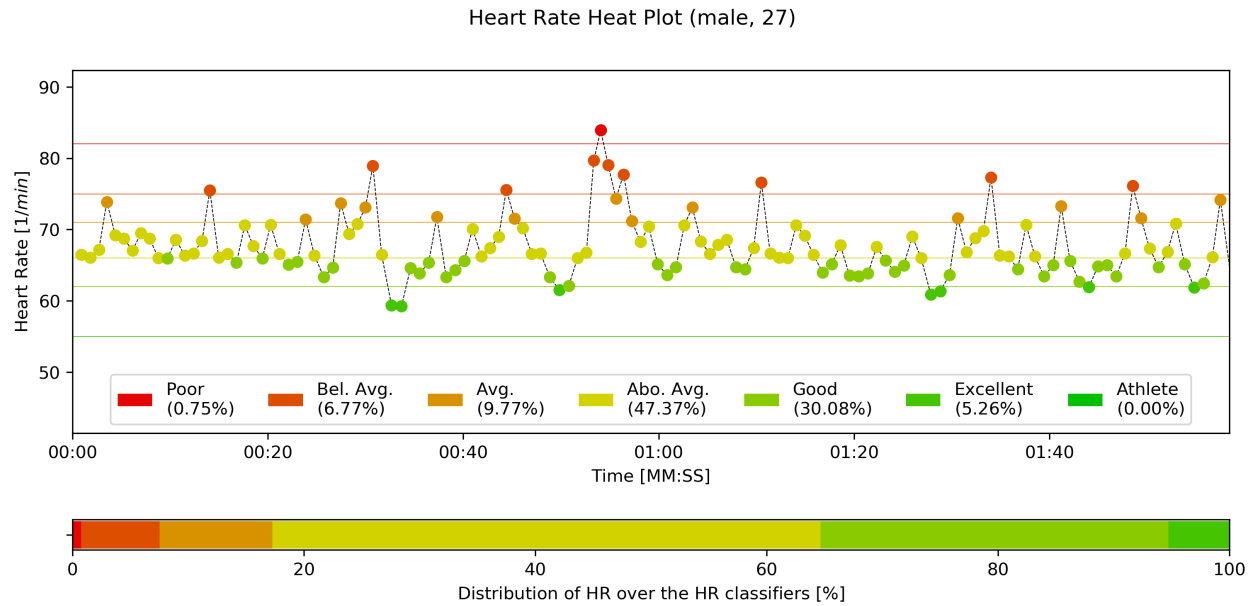
Report

General Information

Experiment	Sample Report
Subject	Jon Doe
Gender, Age	male , 27
Date	2019/05/11 , 00:22:43
Comment	This is a sample comment in a sample report

test





Time Domain Results

Parameter	Value	Unit	Parameter	Value	Unit
NNI Parameters					
NNI	133	-	\overline{NNI}	890.293	ms
NNI_{min}	715.000	ms	NNI_{max}	1013.000	ms
SDNN	53.571	ms	RMSSD	55.484	ms
SDANN	nan	ms	$SDNN_{index}$	nan	ms
NN20	94	-	pNN20	71.212	-
NN50	47	-	pNN50	35.606	-
NNI Differences Parameters					
$\Delta \overline{NNI}$	44.068	ms	ΔNNI_{min}	1	ms
ΔNNI_{max}	146	ms	SDSD	33.840	ms
HR Parameters					
\overline{HR}	67.649	bpm	HR_{min}	59.230	bpm
HR_{max}	83.916	bpm	$\sigma(HR)$	4.295	bpm
Geometrical Parameters					
Triangular Index	7.389	ms	TINN	n/a ¹	-

¹TINN function is not working properly in the current pyHRV version and computes incorrect results, reason for which it is not shown in this report

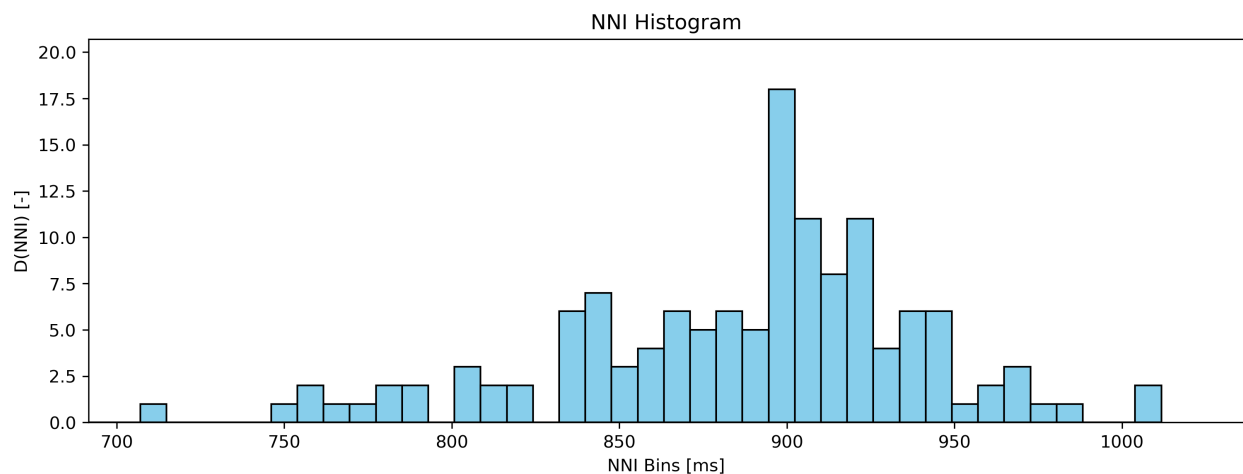


Figure 1: Histogram of the NNI series.

Frequency Domain Parameters

Welch's Method					
	Unit	ULF	VLF	LF	HF
Peak Frequencies	Hz	n/a	0.020	0.109	0.257
Absolute Powers	ms^2	n/a	424.130	1908.205	847.511
Relative Powers	%	n/a	13.338	60.009	26.653
Logarithmic Powers	—	n/a	6.050	7.554	6.742
Relative Powers	—	-	-	60.009	26.653
LF/HF Ratio	—		2.252		
Total Power	ms^2		3179.846		

Configuration: Resampling frequency: 4Hz Window: hamming
Interpolation: cubic NFFT (over entire signal): 4096

Autoregressive Method					
	Unit	ULF	VLF	LF	HF
Peak Frequencies	Hz	n/a	0.000	0.040	0.150
Absolute Powers	ms^2	n/a	2623.036	5480.309	10278.245
Relative Powers	%	n/a	14.270	29.814	55.916
Logarithmic Powers	—	n/a	7.872	8.609	9.238
Relative Powers	—	-	-	29.814	55.916
LF/HF Ratio	—		0.533		
Total Power	ms^2		18381.590		

Configuration: Model Order: 16 NFFT (over entire signal): 4096

Lomb-Scargle Method					
	Unit	ULF	VLF	LF	HF
Peak Frequencies	Hz	n/a	0.003	0.080	0.351
Absolute Powers	ms^2	n/a	432.338	2032.171	4068.332
Relative Powers	%	n/a	6.618	31.107	62.275
Logarithmic Powers	—	n/a	6.069	7.617	8.311
Relative Powers	—	-	-	31.107	62.275
LF/HF Ratio	—		0.500		
Total Power	ms^2		6532.842		

Configuration: Moving Average Window Size: n/a NFFT (over entire signal): 256

Selected Frequency Bands		
ULF Band	Hz	0 - 0
VLF Band	Hz	0.000 - 0.040
LF Band	Hz	0.040 - 0.150
HF Band	Hz	0.150 - 0.400

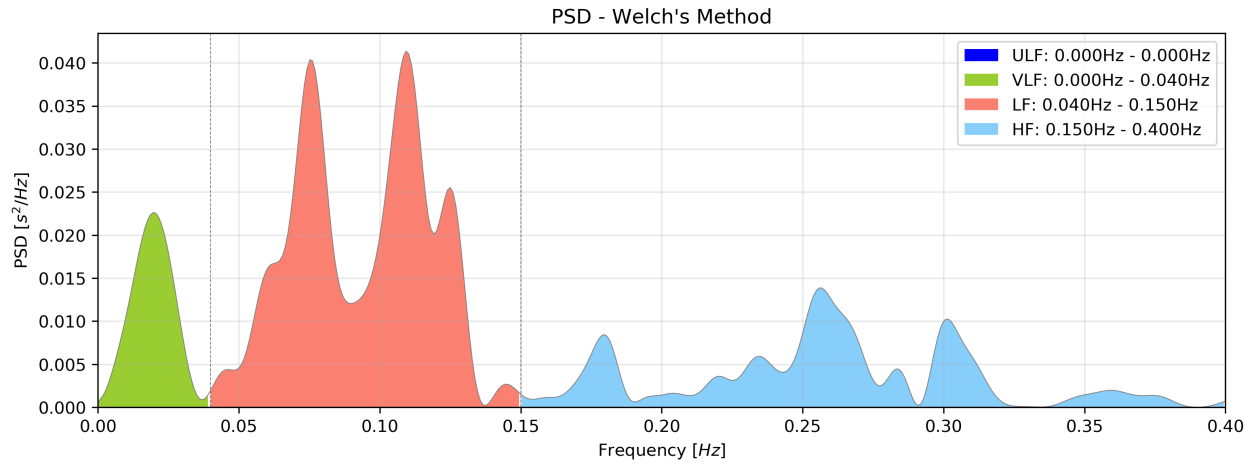


Figure 2: Welch's method with resampling frequency of 4 Hz, hamming window, cubic interpolation, and 4096 samples over the entire signal.

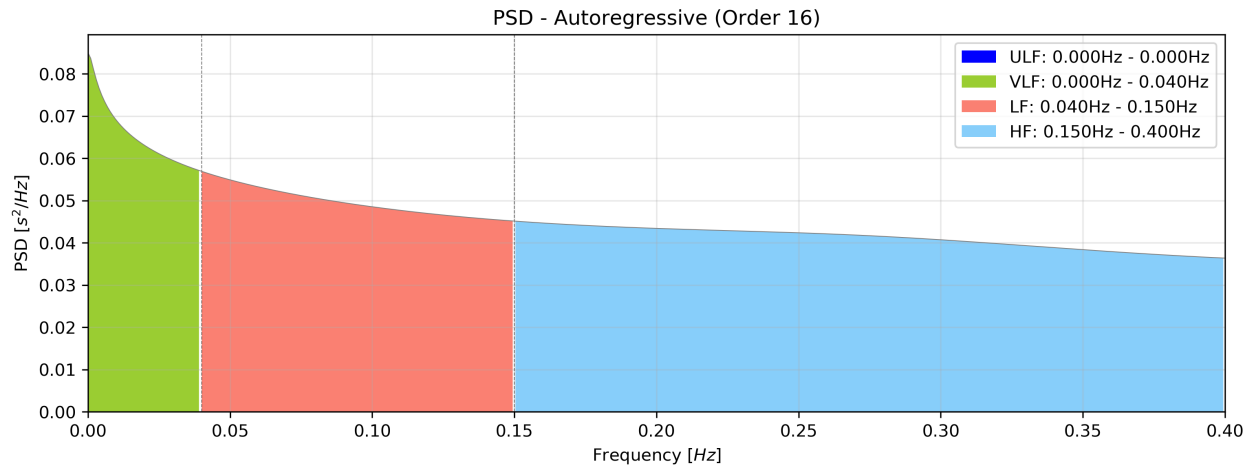


Figure 3: Autoregressive method with model order 16 and 4096 samples over the entire signal.

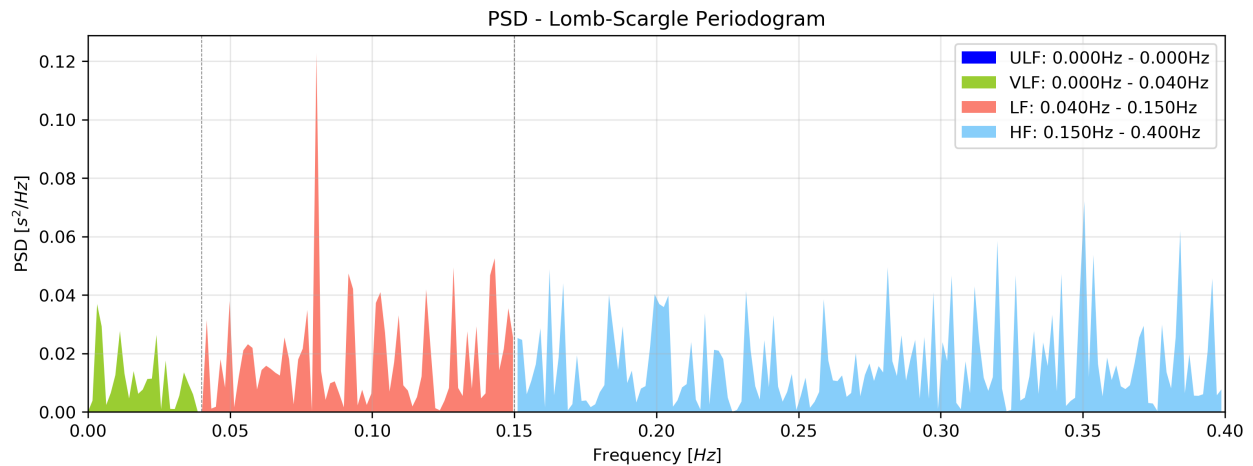
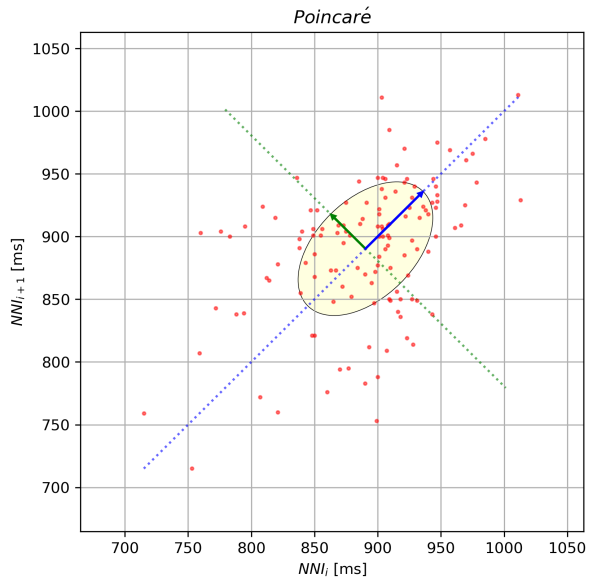


Figure 4: Lomb-Scargle method with moving average window size of n/a samples and 256 samples over the entire signal.

Nonlinear Parameters

Parameter	Value	Unit	Parameter	Value	Unit
Poincaré Plot Parameters					
SD1	n/a	ms	SD2	n/a	ms
SD1/SD2	n/a	ms	Ellipse Area S	n/a	ms



Glossary

AR	Autoregressive
BPM	Beats per Minute
DFA	Detrended Fluctuation Analysis
HF	High Frequency Band
HR	Heart Rate
LF	Low Frequency Band
ΔNNI	Differences between successive NNI
NNI	Normal-to-Normal Intervals
NNx	# of ΔNNI \times ms
pNNx	NNx / # of NNI
PSD	Power Spectral Density
RMSSD	Root Mean of Squared ΔNNI
SDANN	Standard Deviation of the Mean of NNI in all 5 minute Segments
SDNN	Standard Deviation of NNI
$SDNN_{index}$	Standard Deviation of the Mean of NN Intervals in all 5 minute Segments
SDSD	Standard Deviation of ΔNNI
TINN	Triangular Interpolation of the NNI Histogram
ULF	Ultra Low Frequency Band
VLF	Very Low Frequency Band