Data Science Week 2

Missing: Johari Watts, Delphayan Alois, Evelyn Long, Arthur Chapman, Darwin ( missed 2 weeks)

Need dry erase markers and spray cleaner

Generally: diagrams on white board must be large as well as the text on slide (26 font)

9:35 am Arrival

Intro Signal Processing Review of last week

What is a signal

Review of Frequency: # cycles / unit time

Amplitude: what is amplitude?

9:50 am Sampling Frequency in Octave

Play around with increase frequency or amplitude within the code

9:55 am Lost data, shares incorrect information

Rule of Thumb – sampling rate 2X the highest frequency

9:57 am FFT Fast Forward Transform (filter) Algorithm

Non-obvious frequency and making them obvious

\*challenging explanation

10:05 am Noisy plot – plugging into code and displaying wave –

What size filter, use FFT to help determine what frequency

10:10 Low pass filter – one wave signal big wave

High pass filter

Bandpass – medium frequency

Cut off frequency

What filters or what data? Combination of filters? Not one filter fits all

10:20 Experiment with 3 basic filters on computer

10:26 back to ECG data – Biosensor device filters data,

10:30 am Break

Recap: define noisy,

10:45 Break over - Recap music session from fall 7th grade

10:48 ECG filtering readECG.m tab open discussion about noisy data. Sample ECG review what we would want to get rid of (electric outlet signal) what

10:55 took signal and applied a lowpass to get rid of other stuff

11:00 am discussion have you been to a concert – common signaling is a “concert of electrical signal”

11:01 am Audio Codeword Decryption – with Jason

Guitar same string – different sound

Higher frequency – sound examples seagull and voice

11:06 gameTutorialRH in OCTAVE begins

Encrypted Audio Files with headset

Everyone tested and hear audio when filters were used

11:20 Bandstop introduced

Next Clip introduced – why would the bandstop filter not work?

11:30 am – beginning the fun activity filter out to get

Slide deck edit – too many words, too small

Need to change so it is it is more of a diagram verses words

11:50 am Stop point:

How far did we get (7)

2 - Groups finish

3 - 3rd clue

2 – 2nd clue