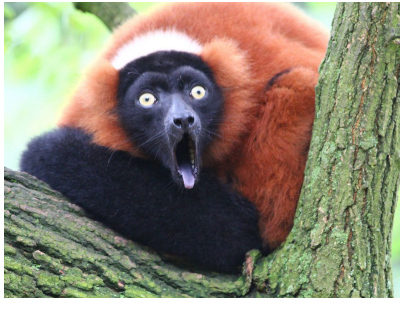
Week of 10/02 Deliverables

Red Lemurs



Deliverables: Finishing up preparation (Ryan)

- Amazon Grant
- Updated SOW
- Re-visit PANDA pipeline with new data

Progress

- Amazon Grant ✔
  - DoD: pdf on github
- Statement of Work Update ✔
  - DoD: link to .md table style
- Revisit PANDA ✔
  - DoD: jupyter nbviewer link

Amazon Grant. ✔

DoD: [pdf on github]

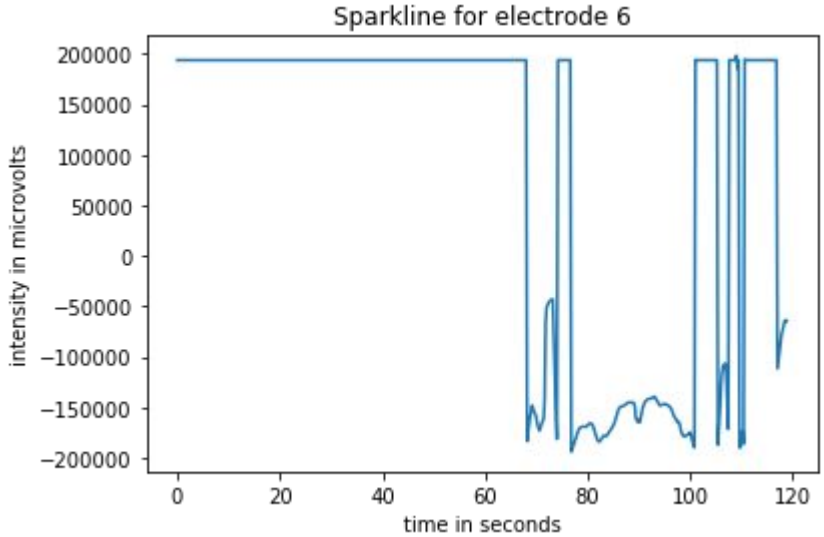
Statement of Work. ✔

DoD: link to .md table style

Revisit PANDA pipeline on HBNB ✔

DoD: jupyter nbviewer link

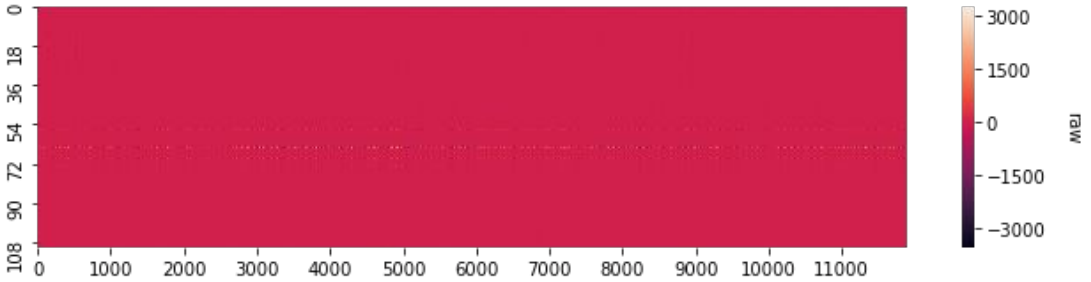
Problem: a new kind of ‘bad’ electrode which adversely affects intermediate preprocessing methods



Revisit PANDA pipeline on HBNB ✔

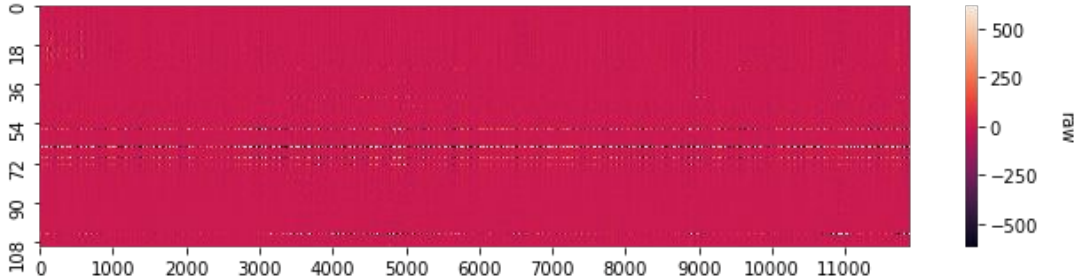
DoD: [jupyter nbviewer link]

Solution: apply bad electrode detection before any global denoising steps



← Bad electrode detection last

Bad electrode detection first →



Deliverables: Basic Exploratory Plots and Bokeh vs Plot.ly (Nitin + Vidur)

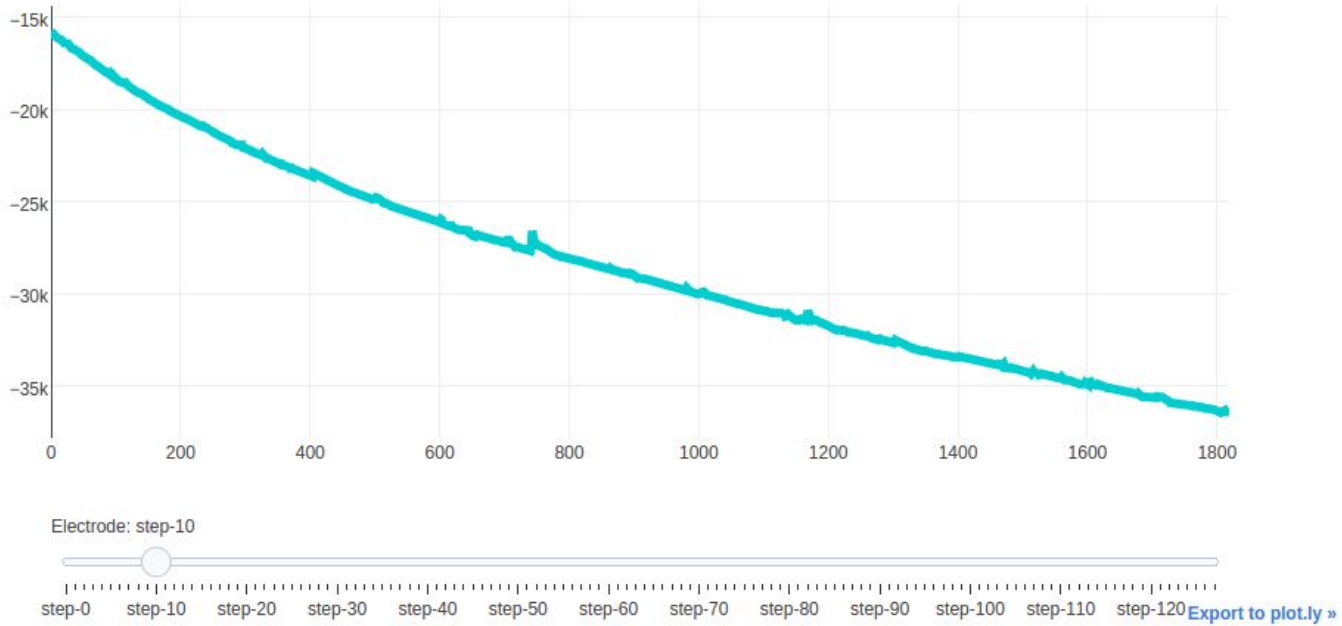
- Sparklines plot for EEG data
- Spectrograms plot for EEG data
- Bokeh vs Plotly

Progress

- Sparklines plot for EEG data. ✔
  - DoD: https://nbviewer.jupyter.org/github/NeuroDataDesign/lemur-f17s18/blob/master/docs/notebooks/nkumar14/Sparklines%20Exploration.ipynb
- Spectrogram plots for EEG data . ✔
  - DoD: https://nbviewer.jupyter.org/github/NeuroDataDesign/eeg-panda-s17f18/blob/master/docs/notebooks/vidurkailash/Spectrogram%20Exploration.ipynb
  -
- Bokeh vs Plotly. ✔
  - DoD: Plots are done in each of above notebooks

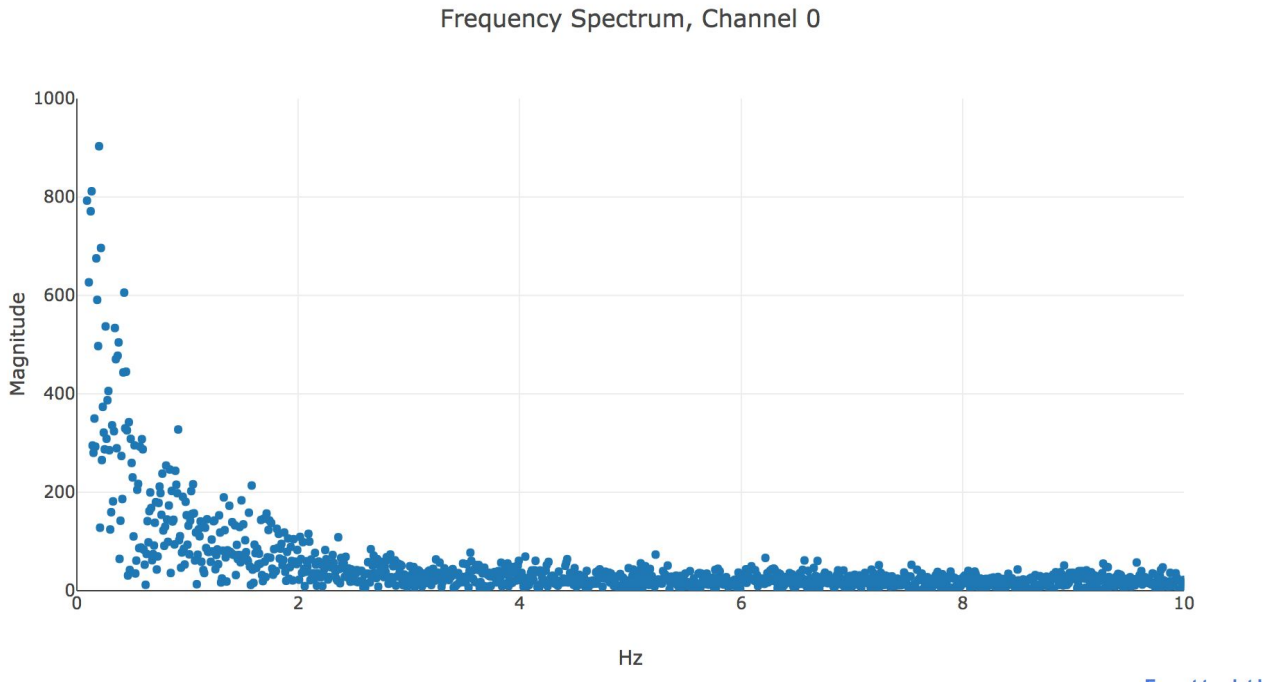
Sparkline Plots for EEG Data. ✔

- Voltage on Electrodes vs Time
- View Notebook



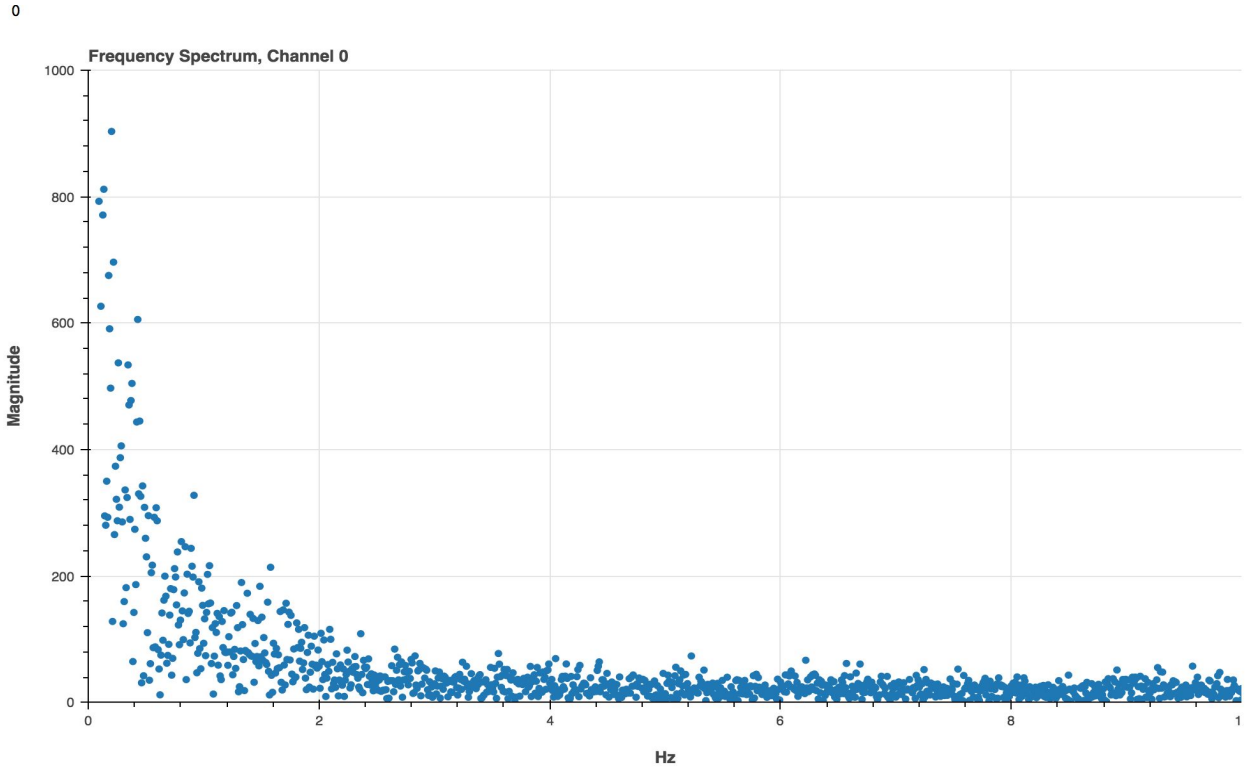
Spectrogram Plots for EEG Data. ✔

Plotly:



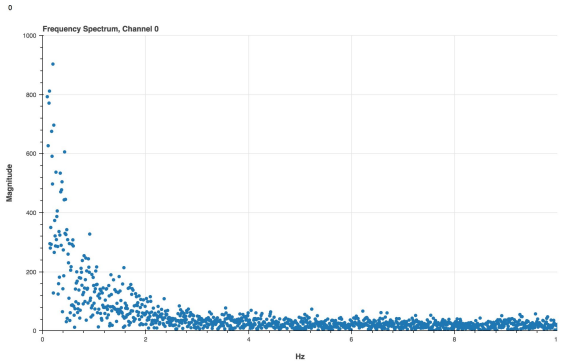
Spectrogram Plots for EEG Data Cont. ✔

Bokeh:



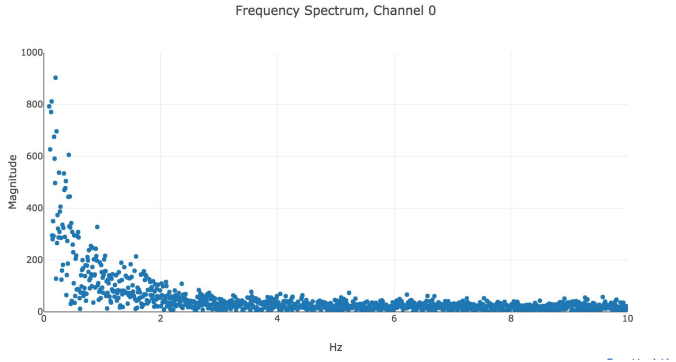
Bokeh vs Plotly ✔

Bokeh



- Some more interactive objects can be created (eg textboxes)
  - Albeit less straightforward to interact with
- 3D visualizations not native to framework

Plotly



- Less interactive objects, easier to connect objects to main plots
- 3D visualizations ARE native and better looking/easier to work with
- Significantly heavier loading times compared to Bokeh
  - Especially subplots... crashed comp 4 times

Compromise; Bokeh for lighter plots, Plot.ly for 3D + heavier statistic plots

Deliverables: Exploratory Plots using MEDA package in R (Ronak, Yuka)

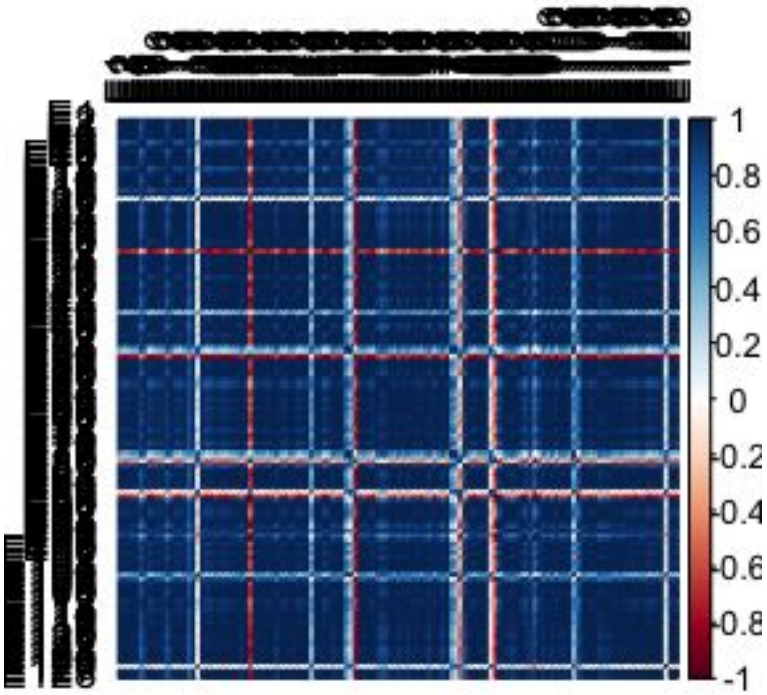
- Complete all plots shown here using EEG data.
- Implement two of the plots in Python.

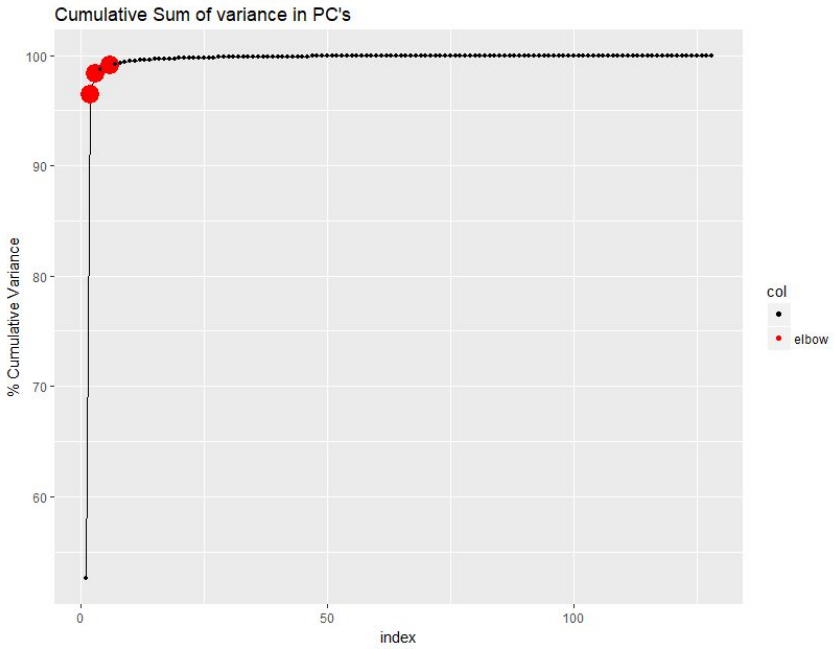
Progress

- MEDA Plots in R. ✔
  - DoD: PDF and RMarkdown.
- Heatmap of Correlation Matrix in Python. ✔
  - DoD: Jupyter.
- Cumulative Variance Curve in Python (without elbow). ✔
  - DoD: Jupyter.

Exploratory Plots in R. ✔

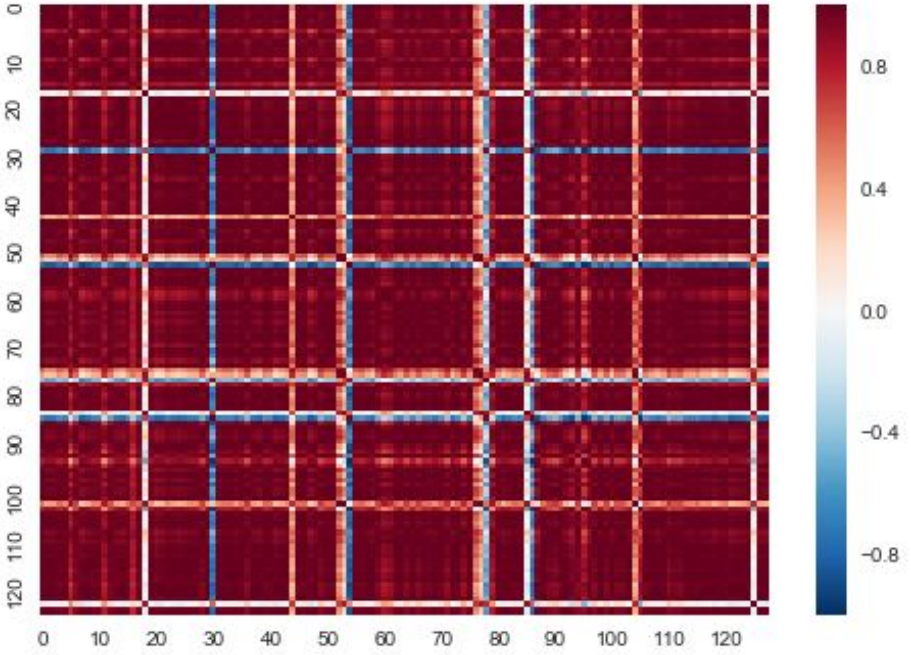
DoD: Shown below - correlation matrix and cumulative variance

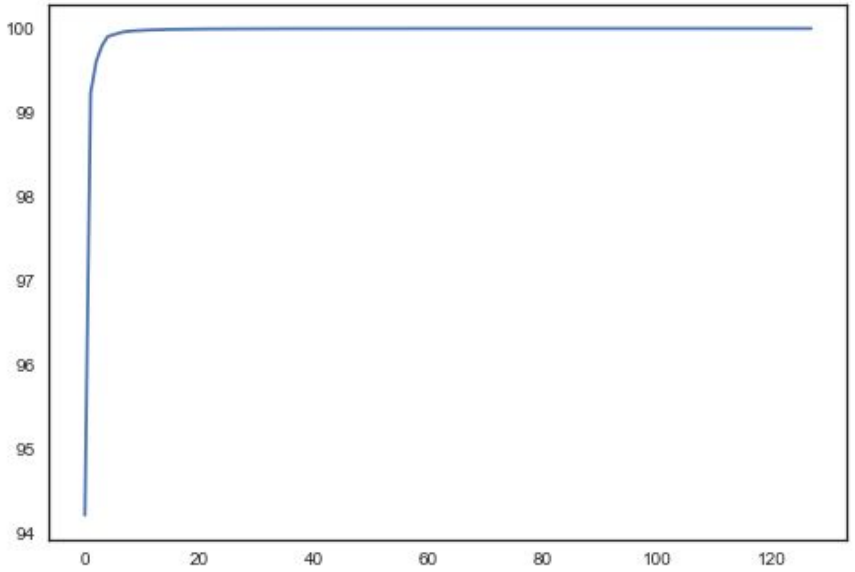




Plot Implementations in Python. ✔

DoD: Jupyter





Next Week

- Scope PySurfer for use in 3d visualizations
- Background reading on aggregate plots for EEG
- Background reading on use cases (find things we want to be able to visualize)
- Continue implementing useful functions from MEDA