Pioneer – iEEG - SOP

## Revision History

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| --- | --- | --- | --- |
| **Version** | **Editor** | **Date** | **Comments** |
| 0.1 | Brian P. | 01/23/23 | Initial Draft for all of Pioneer |
| 0.2 | Brian P. | 01/24/23 | Split into separate Pioneer pipeline iEEG. Added workflow. |
|  |  |  |  |

## Purpose

Provide a user with a predictive measure of future epilepsy risk.

## Definitions

* AW – Apple Watch
* EMR – Electronic Medical Record

## Teams

### NLP Team

Team responsible for portions of the workflow that ingest and analyze written/spoken word.

#### Members

* Kevin Xie
* Akash Pattnaik
* Nina Ghosn
* Will Ojemann
* Carlos Aquila
* Peter Galer

### iEEG

Team responsible for portions of the workflow that manage iEEG data

#### Members

* Akash Pattnaik
* Ryan Gallagher
* Will Ojemann
* Nishant Sinha

### Medications

Team responsible for portions of the workflow that ingest medication data.

#### Members

* Nina Ghosn

### Data Services

Team responsible for facilitating data deployment, security, and integration.

#### Members

* Brian Prager
* Joshua Asuncion

### IRB & HIPPA Compliance

Team responsible for ensuring the data workflow complies with IRB and HIPPA standards.

#### Members

* Magda Wernovsky

## Workflow

1. Data Source
   1. Apple Watch
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   2. iEEG
      1. **Team:** Data Services
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   3. EMU
      1. **Team:** Data Services
      2. **Notes:** N/A
      3. **Repository Link:** N/A
2. Data Quality Check
   1. Alignment
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
3. Preprocessing
   1. Artifact Removal
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   2. Filtering
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   3. Artifact Removal
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   4. Filtering
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   5. Localization
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   6. Seizure Annotation
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
4. Feature Selection
   1. Accelerometer
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   2. Heartrate
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   3. Sleep Stage
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   4. iEEG Specific
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
5. Training
   1. Hyperparameters
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   2. Model (TBD)
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
6. Testing
   1. Model (TBD)
      1. **Team:** iEEG
      2. **Notes:** N/A
      3. **Repository Link:** N/A
7. Reporting
   1. Analysis Statistics
      1. **Team:** Data Services
      2. **Notes:** N/A
      3. **Repository Link:** N/A
   2. Intermediate Time Series
      1. **Team:** Data Services
      2. **Notes:** N/A
      3. **Repository Link:** N/A