

HIPPIE WEB USER GUIDE

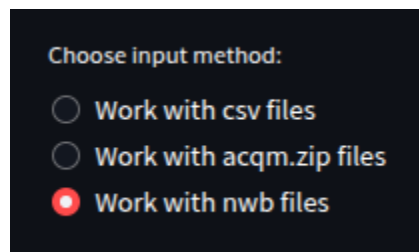
1. Preparing Your Data

The app accepts three main types of input:

- **CSV files:** separate .csv files for autocorrelograms (ACG), interspike intervals (ISI), and waveforms.
- **acqm.zip files:** compressed recordings that the app will read automatically.
- **NWB files:** Neurodata Without Borders format.

rows = neurons, columns = timepoints.

2. Uploading Data



1. In the section “**Choose input method**”, select one of:
 - **Work with csv files** → Upload your ACG, ISI, and waveform .csv files in the three columns.
 - **Work with acqm.zip files** → Upload .zip files containing your electrophysiology data in acqm format.
 - **Work with nwb files** → Upload .nwb files (experimental).

Upload the acg .csv files here

Drag and drop files here

Limit 200MB per file • CSV

Browse files

Upload the isi .csv files here

Drag and drop files here

Limit 200MB per file • CSV

Browse files

Upload the waveform .csv files here

Drag and drop files here

Limit 200MB per file • CSV

Browse files

- Optionally, you can upload a **cell_type.csv** file if you already have labels for your neurons.

Neural data visualizer

Upload your CSV data files and visualize them please

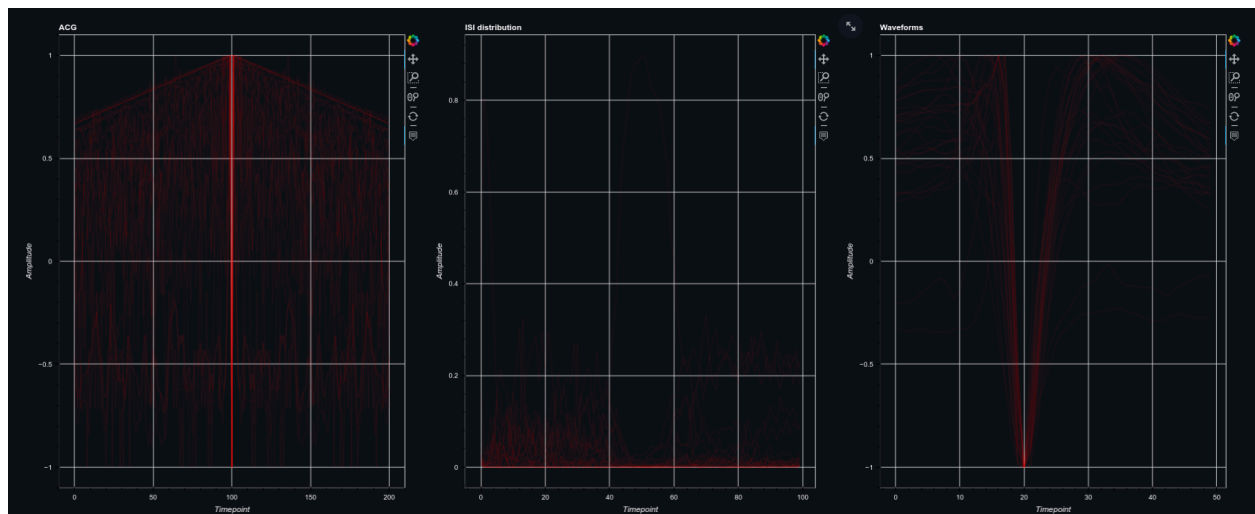
upload the cell_type .csv file if you have one

Drag and drop file here

Limit 200MB per file

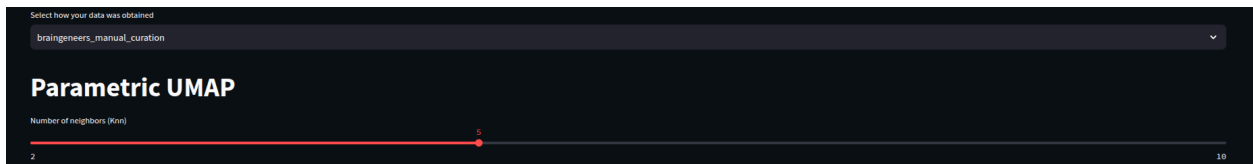
3. Visualizing Raw Data

- Once uploaded, the app automatically normalizes and resizes your data.
- You will see three interactive plots:
 - ACG (Autocorrelograms)**
 - ISI Distributions**
 - Waveforms**

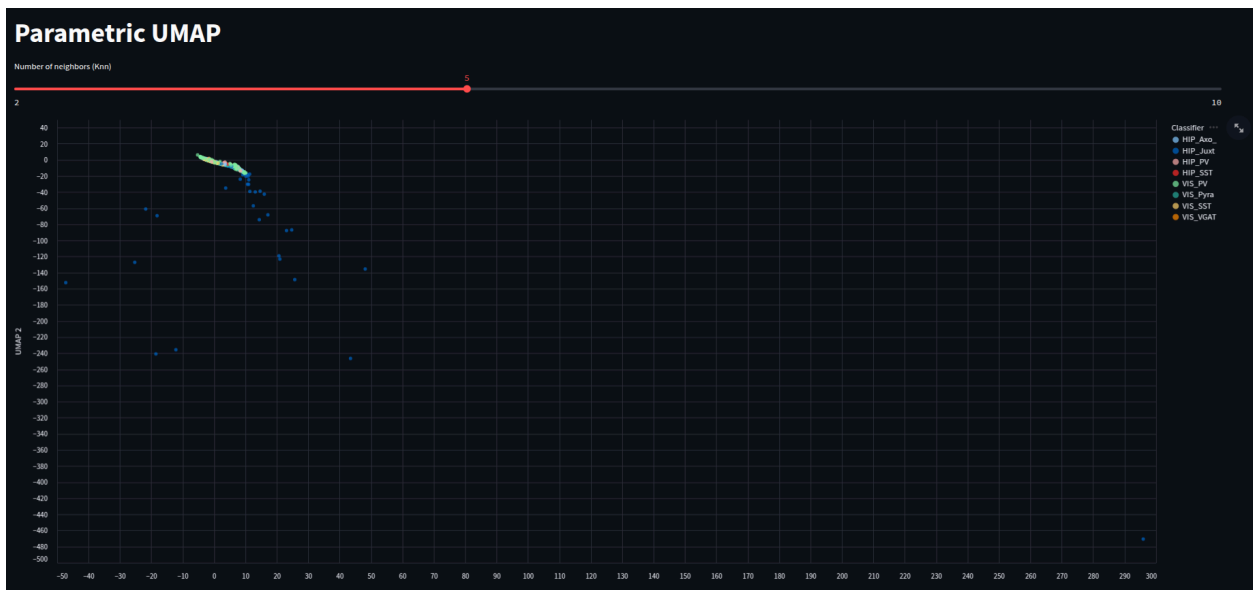


4. Embeddings with HIPPIE

1. Select how your data was obtained (e.g., *braingeneers_manual_curation*, *lisberger*, *hausser*) in the **dropdown menu**. If you don't know which option to choose you don't need to use this function. Just leave the preselected option.

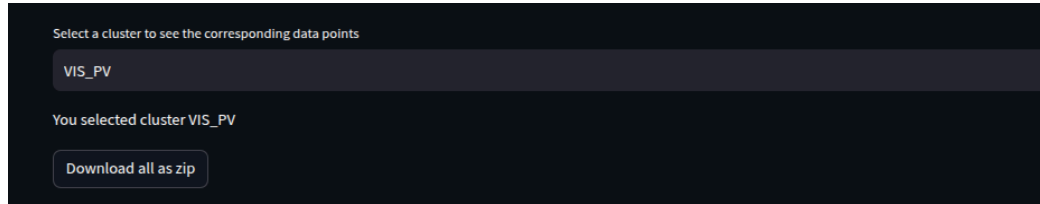


2. The HIPPIE model will compute **embeddings** for all neurons.
3. A **Parametric UMAP plot** will appear:
 - Each point represents a neuron.
 - Colors correspond to automatically discovered clusters (if no cell type file uploaded).
 - Or to your provided cell types (if you uploaded cell_type.csv).

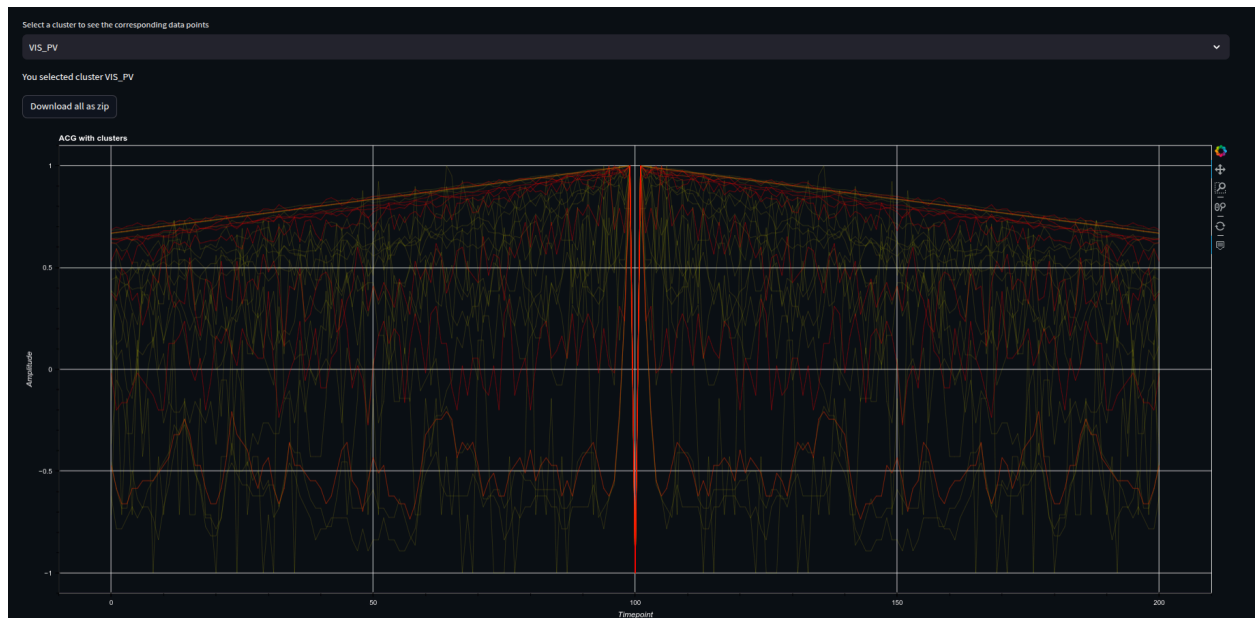


5. Exploring Clusters

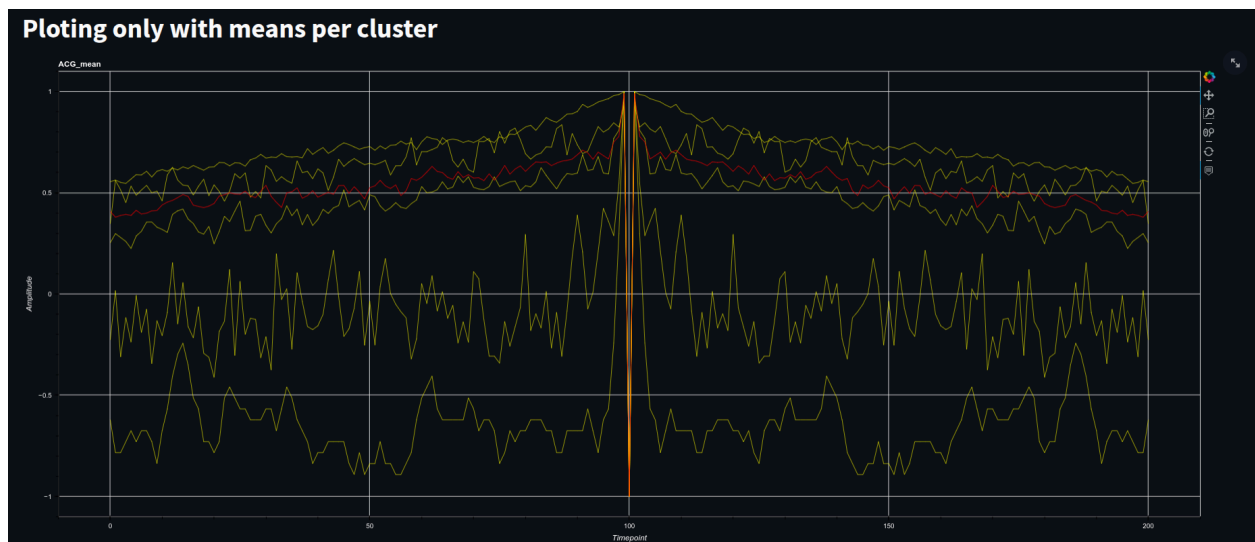
- Use the dropdown menu “**Select a cluster/cell type**” to highlight neurons of interest.



- The corresponding ACG, ISI, and waveform plots update to show only those neurons highlighted in red.



- You can also see **mean plots per cluster** for easier comparison.



6. Downloading Results

At the bottom of the analysis:

- Click “**Download all as zip**” to export:
 - `embeddings_clusters.csv`
 - `acg_clusters.csv`
 - `isi_clusters.csv`
 - `waveforms_clusters.csv`

You can save these for further analysis in R, or Python.

