

HIPPIE WEB USER GUIDE

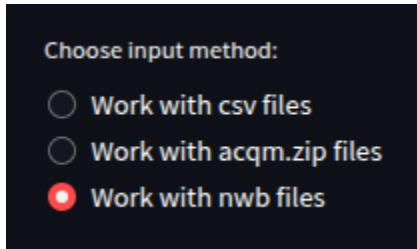
1. Preparing Your Data

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).

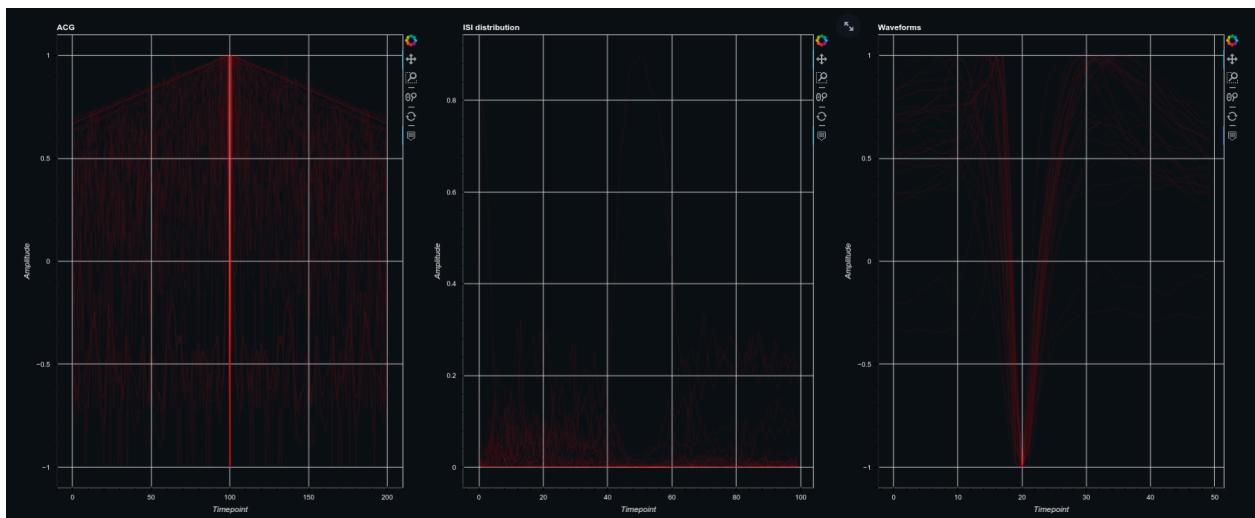


2. Optionally, you can upload a **cell_type.csv** file if you already have labels for your neurons.

A screenshot of the Neural data visualizer landing page. The title 'Neural data visualizer' is at the top. Below it is a dark banner with white text: 'Upload your CSV data files and visualize them please' and 'upload the cell_type.csv file if you have one'. There is also a 'Drag and drop file here' button with a cloud icon and a note about the 200MB limit 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

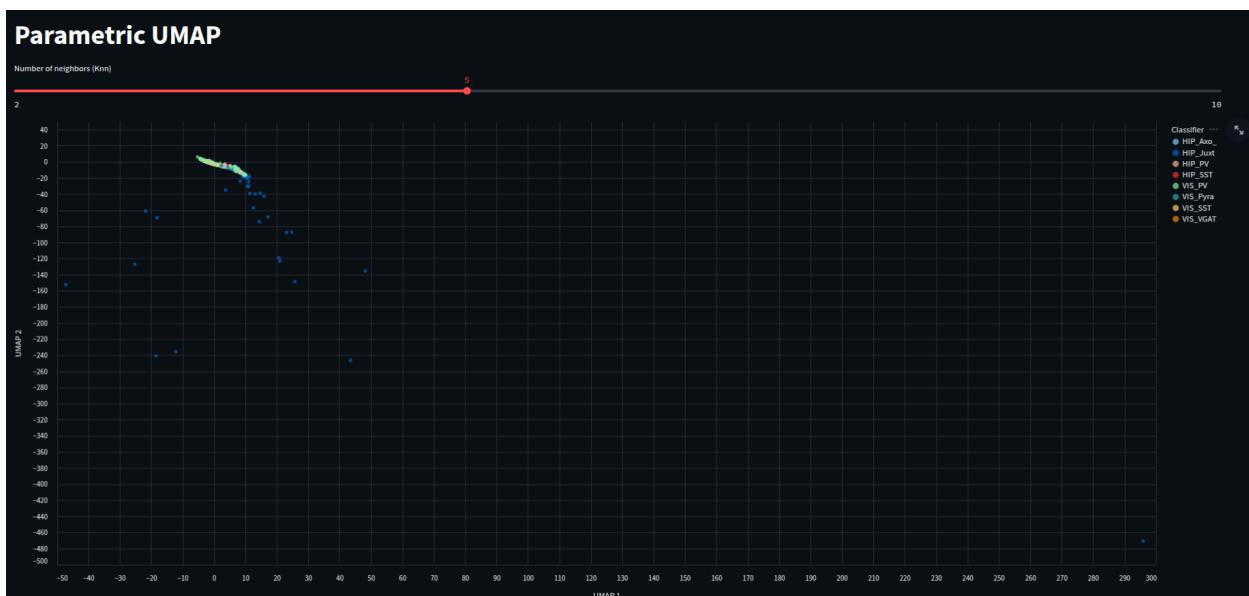
1. Select how your data was obtained (e.g., *braingeneers_manual_curation*, *lisberger*, *hausser*) in the **dropdown menu**. If you don't know which option to choose you don't need to use this function. Just leave the preselected option.



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.

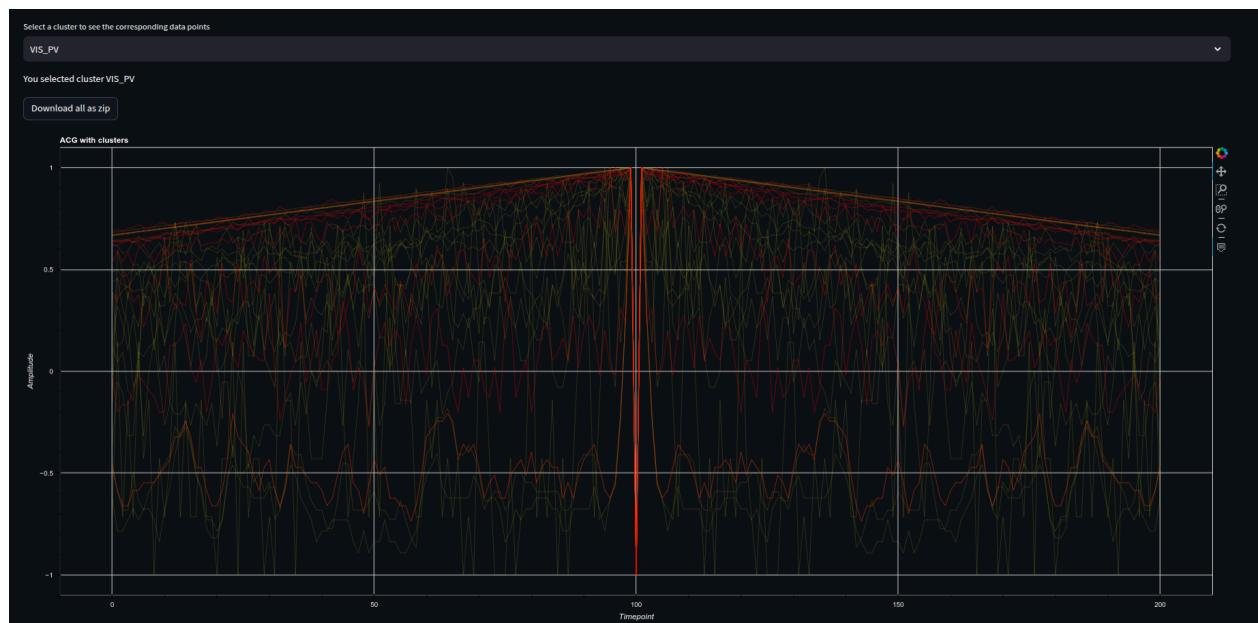
Select a cluster to see the corresponding data points

VIS_PV

You selected cluster VIS_PV

Download all as zip

- 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.

