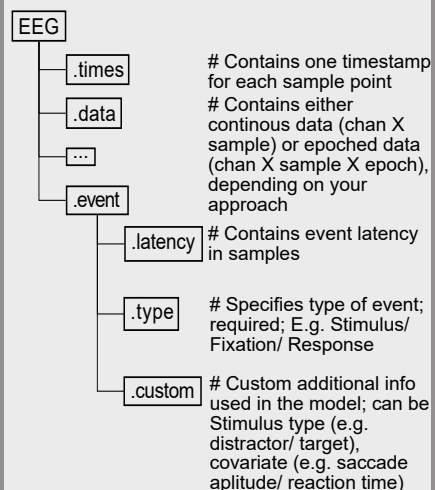


Unfold Version Features

Feature	Unfold	Unfold.jl
Overlap correction	x	x
Non-linear splines	x	x
Plotting tools	x	UnfoldMakie.jl - beta
Sanity checks	x	
Tutorials	x	x
Speed	x	x
Unit tests	x	x
HRF (fMRI) basis		x
Mix different basisfunctions		x
Different timewindows per event		x
Mixed models		x
Item & subject effects		x
Decoding		back2back regression

Data Structure

MATLAB



Julia

Variable	Format
Data	:Array{Union{Missing, Float64}, 2} [Channel X Sample]
Data - Epochs	: Array{Union{Missing, Float64}, 3} [Channel X Sample X Epcch]
Events	DataFrame

Example Events Dataframe

Row	latency :Int64	type :String15	intercept :Int64	condition :Int64
1	20	stimulus	1	1
2	40	stimulus	1	0
3	69	stimulus	1	0
4	90	stimulus	1	1

Setting up/ Running Models

MATLAB

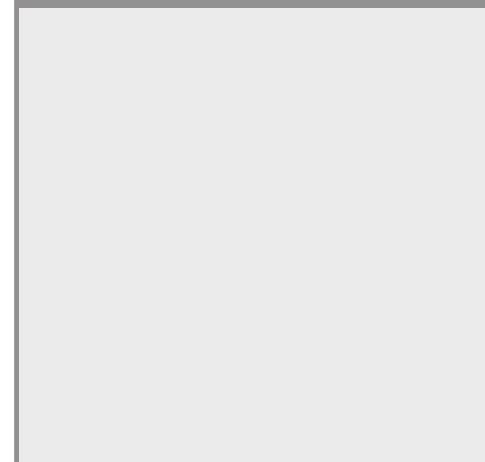
Action	Function
Formula	Formula = 'y ~ 1 + condition' Type: String
Defining Designmat	EEG = uf_designmat(EEG, 'eventtypes', {'stimulus'}, 'formula', Formula)
Timeexpansion	EEG = uf_timeexpandDesignmat(EEG, 'timelimits', [-0.2 1])
Fitting Model	EEG = uf_glmfit(EEG)
Condense results	Ufresult = uf_condense(EEG)

Julia

Action	Function
Formula	F = @formula 0 ~ 1 + condition
Defining Designmat	Basisfunction = firbasis(τ=(-0.4,.8), sfreq=50, name="stimulus") bfDict = Dict{Any=>(F,basisfunction))
Fitting Model	M = fit(UnfoldModel, bfDict, events, data)
Condense Results	Results = coefable(M)

Plotting (tba)

MATLAB



Julia



Further Links:

Unfold MATLAB Docs: <https://www.unfoldtoolbox.org/overview.html>

Unfold.jl Docs: <https://unfoldtoolbox.github.io/Unfold.jl/dev/>

Unfold Paper: <https://peerj.com/articles/7838/>