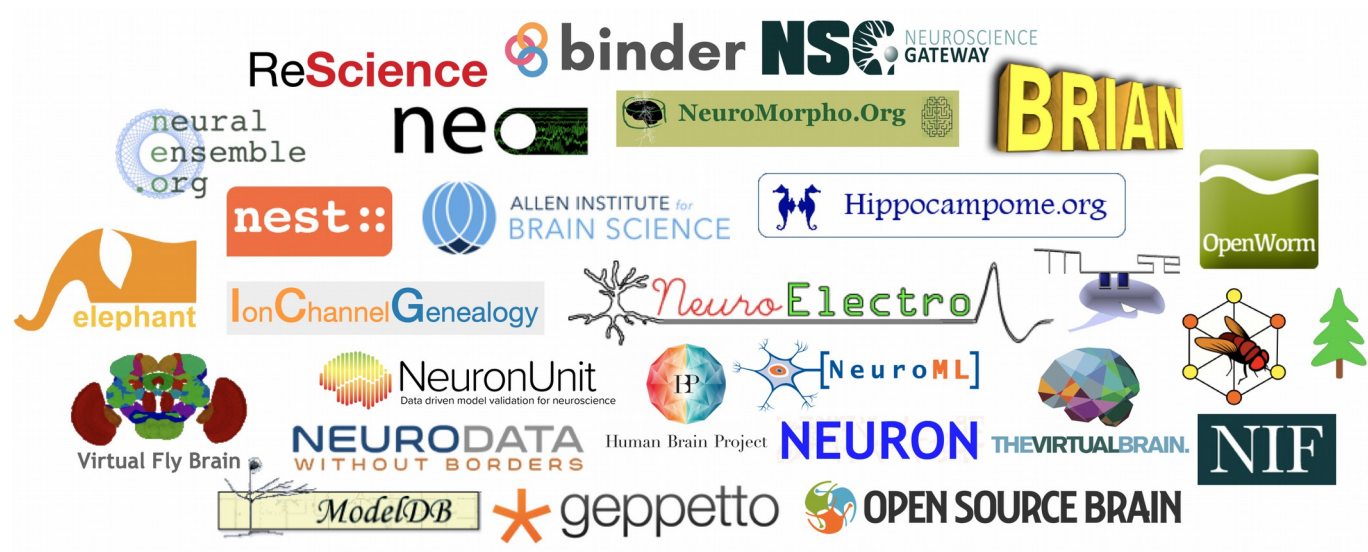


Neuroinformatics resources for computational modellers



Padraig Gleeson (University College London, UK)

Andrew Davison (CNRS, Gif-sur-Yvette, France) &

<https://github.com/NeuralEnsemble/NeuroinformaticsTutorial/blob/master/CONTRIBUTORS.md>

Introduction

Neuroinformatics (like computational neuroscience, connectomics, etc.) means many different things to different people...

Brain Atlases

Open source tools

Neuroimaging

Computing resources

Connectivity data

Anatomical datasets

**Electrophysiology
data sharing**

Model sharing

Gene expression

Current tutorial

*Focus on **neuroinformatics resources** which may be of use for those **creating and analysing computational models of neuronal systems***

Topics

Experimental datasets

Structured data from literature

Analysis tools

Simulation environments

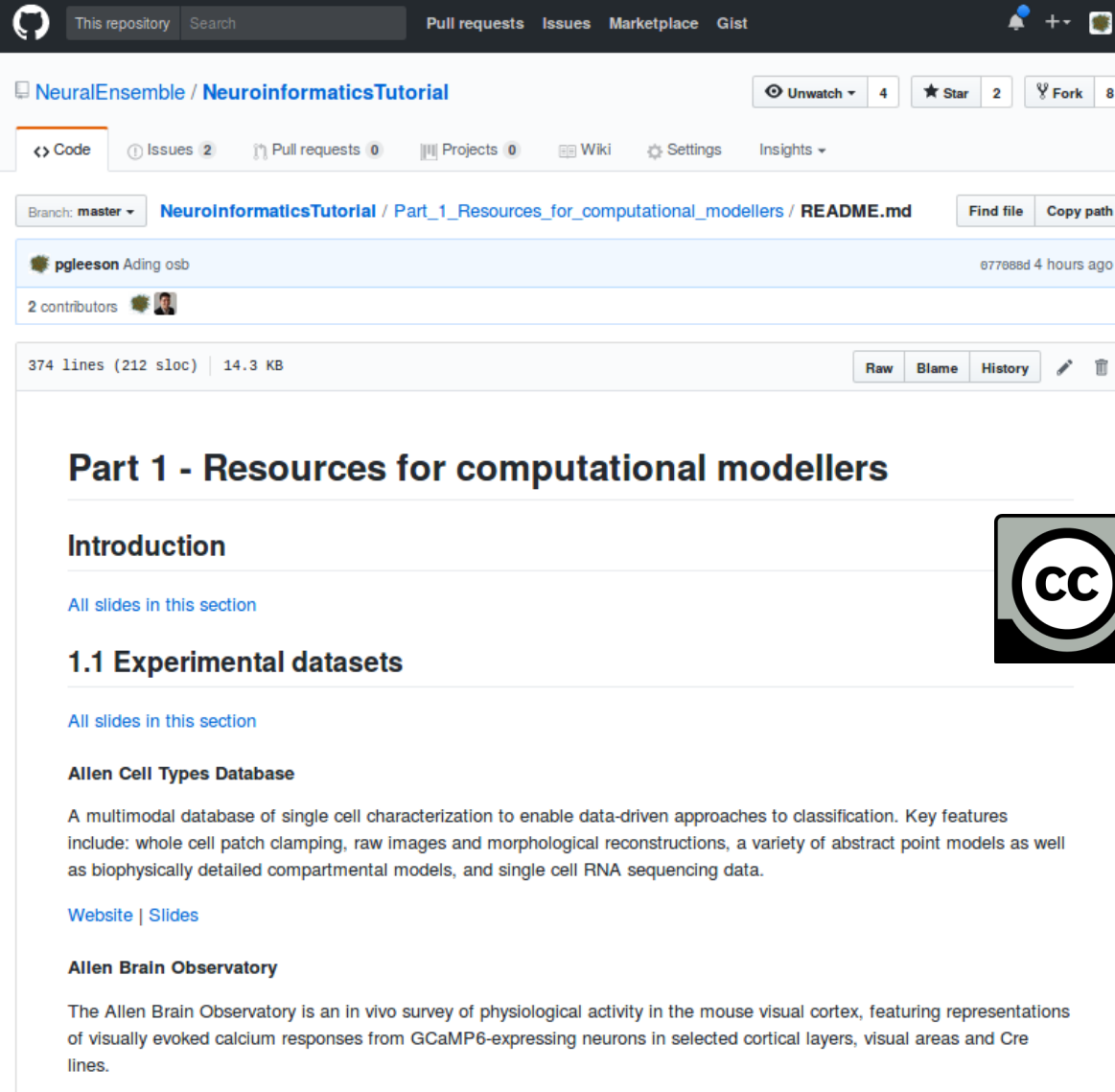
Model sharing

Computing infrastructure

Open source initiatives

Web portals

Online tutorial materials



NeuralEnsemble / NeuroinformaticsTutorial

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Code Issues 2 Pull requests 0 Projects 0 Wiki Settings Insights

Branch: master NeuroinformaticsTutorial / Part_1_Resources_for_computational_modellers / README.md Find file Copy path

pgleeson Ading osb 677888d 4 hours ago

2 contributors

374 lines (212 sloc) | 14.3 KB Raw Blame History

Part 1 - Resources for computational modellers

Introduction

[All slides in this section](#)

1.1 Experimental datasets

[All slides in this section](#)

Allen Cell Types Database

A multimodal database of single cell characterization to enable data-driven approaches to classification. Key features include: whole cell patch clamping, raw images and morphological reconstructions, a variety of abstract point models as well as biophysically detailed compartmental models, and single cell RNA sequencing data.

[Website](#) | [Slides](#)

Allen Brain Observatory

The Allen Brain Observatory is an in vivo survey of physiological activity in the mouse visual cortex, featuring representations of visually evoked calcium responses from GCaMP6-expressing neurons in selected cortical layers, visual areas and Cre lines.

[Website](#) | [Slides](#)

HBP Neuroinformatics

<https://github.com/NeuralEnsemble/NeuroinformaticsTutorial>

Exercises

Hands on demonstrations

Human Brain Project Collaboratory

Run Allen Institute cell model on NSG via OSB

Demonstration of Neo/PyNN using Jupyter notebooks

Participant Exercises

Cell morphology from NeuroMorpho.Org visualised on Open Source Brain

Exploring Brain Circuits with the Fruit Fly Brain Observatory

OpenWorm tutorials



Future additions? #6

Edit New issue

Open pgleeson opened this issue 12 days ago · 1 comment



pgleeson commented 12 days ago • edited

Member + Edit Delete

Can be added in future versions (though these are getting into the area of SW for comp neuro in general, rather than pure Neuroinformatics)

Model construction/management

neuroConstruct
NetPyNE
SimTracker
Sumatra
OpenCortex

Model optimisation

PyBlueOpt
Neurotune

Morphology reconstruction/analysis

BigNeuron (move here)
TREES Toolbox
CATMAID
Knossos
Vaa3D

Suggestions welcome!

Assignees No one—assign yourself

Labels None yet

Projects None yet

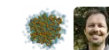
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apdavison commented 12 days ago

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