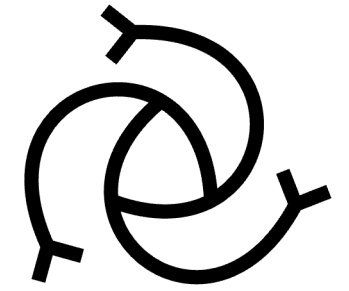# *improv*: tools for adaptive neuroscience experiments

What will be delivered? The goal of *improv* is to make it easier to design, prototype, and run experiments that change as new data are collected. From closed loop stimulation to model-guided experiments, we aim to facilitate model-based explorations and more efficient experimental designs via a simple and flexible programming model. Learn more at https://project-improv.github.io.

What is new inside? Have an experiment that requires more than just data collection? Need to stimulate based on *functional* properties, what happened *last trial*? How about fitting a model as you go and using it to target holographic photostimulation? *improv* makes these and other complex experiments simple by handling the tricky bits—data pipelining, network communication, model integration—that would otherwise result in brittle, one-off solutions. We use simple primitives that compose easily and play well with others. See more at https://github.com/project-improv/improv.

<u>Should you use *improv*?</u> If you are comfortable with coding and need the flexibility to decide *exactly* what happens in your experiment, *improv* can likely save you time and effort. To see examples of how it can be applied to real-time data analysis and control across a variety of species and data types, check out our preprint here.

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