The Emergent platform™ for Community Ccn

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Presentation Abstract Summary The emergent platform (TM) consists of the emergent (TM) simulator (http://grey.colorado.edu/emergent) and supporting infrastructure for community CCN model development. It has integrations with open repositories such as wikis and source control as well as with free public supercomputing resources provided through the Neuroscience Gateway on the Comet supercomputer, resulting in a simple, yet full fledged platform for collaboration in brain modeling. The platform supports brain modeling up and down the stack, from computational neuroscience to mean field models to ACT-R and Bayesianism, allowing one to combine the strengths of the different approaches in a single model. emergent (TM) has the best support for visualization of any neural simulator to date, enabling one to use visual regression to develop their intuitions of dynamic brain systems (Wlodzislaw & Dobosz, 2011). The platform has a long history in Connectionism, having descended from PDP (1986) and PDP++ (1995), and comes with a CCN textbook (http://ccnbook.colorado.edu) that explores the latest instantiations of the increasingly brain-inspired versions of the PDP models from the early days. While flexible, the platform is also principled and biased towards convergence on a middle-of-the-road approach, with wizards enabling the creation of cognitive architectures linking PFC, hippocampus, midbrain, vision and more.

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