Coupled ODE and event driven simulation defined in a novel high-level declarative language using NetPyNE.

Gradient descent and genetic algorithms were used to determine parameters for particular cell types. Project won the 2017 HPCwire Readers' Choice Award for Best Use of Artificial Intelligence using HPC.

End Users: Growing interest in multiscale modeling: Human Brain Project, Blue Brain Project, Allen Brain Institute, many individual research labs contributing to ModelDB.