USING DIFFRAX FOR EFFICIENT GPU-ACCELERATED SDE SIMULATION

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Diffrax (github.com/patrick-kidger/diffrax) is a JAX-based library for simulating ordinary, stochastic and controlled differential equations and is the foremost tool for training neural differential equations. In addition to a quick demo of training a neural ODE, this mini-course will present how various types of SDEs can be simulated in Diffrax, using different solvers and adaptive step-size controllers. A particular focus will be given to the new high order solvers for additive-noise and Langevin SDEs and how these can be used adaptively via the Virtual Brownian Tree and the PID controller.