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A generic software adapted for EIC simulation and reconstruction

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A generic software suite for simulation and reconstruction has been developed to facilitate EIC prototype detector R&D, physics studies and full detector designs. At its core, it is based on Fun4All, a compact and versatile software framework. It has been used in the PHENIX experiment to process tens of petabytes of data each year at BNL, and has been continually developed by the sPHENIX collaboration and adopted by the Fermilab E1039 collaboration. Many packages are integrated into this framework, including event generators, the Geant4 toolkit, detector models, reconstruction and analysis packages. It also provides a simple interface to integrate new simulation and reconstruction modules. It is fully open source and supported with daily build and validations. A standalone container is available for download at <https://github.com/sPHENIX-Collaboration/singularity>. In this talk, we will discuss this software suite and share its user experience, from learning simulation to large scale computing.

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