

ROOT Users Workshop



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Creative Misuse of ROOT

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From Steinway and Helmholtz, to Max Mathews and Bell Labs, to Google Magenta, scientists and musicians have long been natural collaborators, with innovations and inventions passing in both directions. Over the years, a select few creative coders have been quietly reappropriating ROOT technologies, particularly for musical applications. In one such example, Cling has been used as the basis for a C++ based live coding synthesiser [1]. In another example, Cling has been installed on a BeagleBoard to bring live coding to the Bela interactive audio platform [2]. More recently, embedded digital musical instrument designers are experimenting with machine learning for gesture recognition and audio synthesis with the SOFIE library [3]. What would happen if the ROOT community were to embrace and encourage creative misuse of Cling, SOFIE and other powerful CERN technologies? Could musical innovation and invention inspire and benefit scientific practice at CERN? This short talk proposes to review the examples and explore the questions above, with the aim of promoting discourse between ROOT technologists, CERN researchers, and creative technologists.

[1] tiny spectral synthesizer with livecoding support <https://github.com/nwoeanhinnogaehr/tinyspec-cling>

[2] Using the Cling C++ Interpreter on the Bela Platform

<https://gist.github.com/jarmitage/6e411ae8746c04d6ecbee1cbc1ebdcd4>

[3] Test running ONNX models on Bela via ROOT@CERN's SOFIE inference code generator

<https://gist.github.com/jarmitage/0ac53dfecce8ed03e9f235d3e14ec9a2>

Summary

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