

Automating Awkward Array testing

Wednesday, July 7, 2021 5:30 PM (10 minutes)

The talk would cover how we can find loopholes in Awkward Array using software testing methodologies. Sometimes when dealing with array manipulations we face breakpoints in the process when using certain inputs. Therefore to find out these cases, input values have to be generated automatically based on the constraints of various functions and fed to these functions in order to find out which input case throws an error.

This problem can be solved using the hypothesis testing library to auto-generate these test input cases based on kernel function constraints. Kernel function is the lowest layer in awkward array that is responsible for all sorts of array manipulation. To find out which input creates a corner case in a function we use different hypothesis strategies. The talk would cover the way to select the best strategy for testing a certain function. The reason for using hypothesis over other libraries is that it can automate the testing process, generate input values or even generate a test function without writing too many lines of code. The talk would cover an overview of this entire process.

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