Frameworks

Giza operates on multiple frameworks simultaneously. This allows you to switch between frameworks as needed, providing flexibility and control over your development process.

Orion Cairo

Cairo is A[STARK](#) -based Turing-complete language for writing provable programs. It is designed to be highly expressive, allowing developers to write programs that are both complex and efficient.[Orion](#) is an open-source, framework dedicated to Provable Machine Learning writing in Cairo. It provides essential components and a new ONNX runtime for building verifiable Machine Learning models using STARKs.

EZKL

ezkl is an engine for doing inference for deep learning models and other computational graphs in a zk-snark usinghalo2 as the backend. For more information aboutezkl , see the[ezkl repository](#)

Switching between frameworks

As we aim to bring the best of both worlds to developers, Giza allows us to perform the same operations on both frameworks just with a single change in the command line, the--framework flag.

This flag allows you to specify which framework you want to use for the current operation but the underlying work that we do is the same.

For example, if you want to use the Cairo framework, you would use the--framework CAIRO flag. Similarly, for the EZKL framework, you would use the--framework EZKL flag.

For example, if you want to transpile a program using the Cairo framework, you would use the following command:

```
Copy gizatranspile--frameworkCAIROmodel.onnx
```

Similarly, if you want to transpile a program using the EZKL framework, you would use the following command:

```
Copy gizatranspile--frameworkEZKL--input-datainput.jsonmodel.onnx
```

Thetranspile command in EZKL is essentially the same as thesetup() command used to perform the trusted setup, as we need extra information to perform thesetup it has an additional--input-data flag that allows you to specify the input data for the model.

This allows you to switch between frameworks as needed, providing flexibility and control over your development process.

For more information about the available commands for each framework, please refer to the[Cairo](#) and[EZKL](#) documentation.

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