

PSimPy - Predictive and probabilistic simulation with Python)

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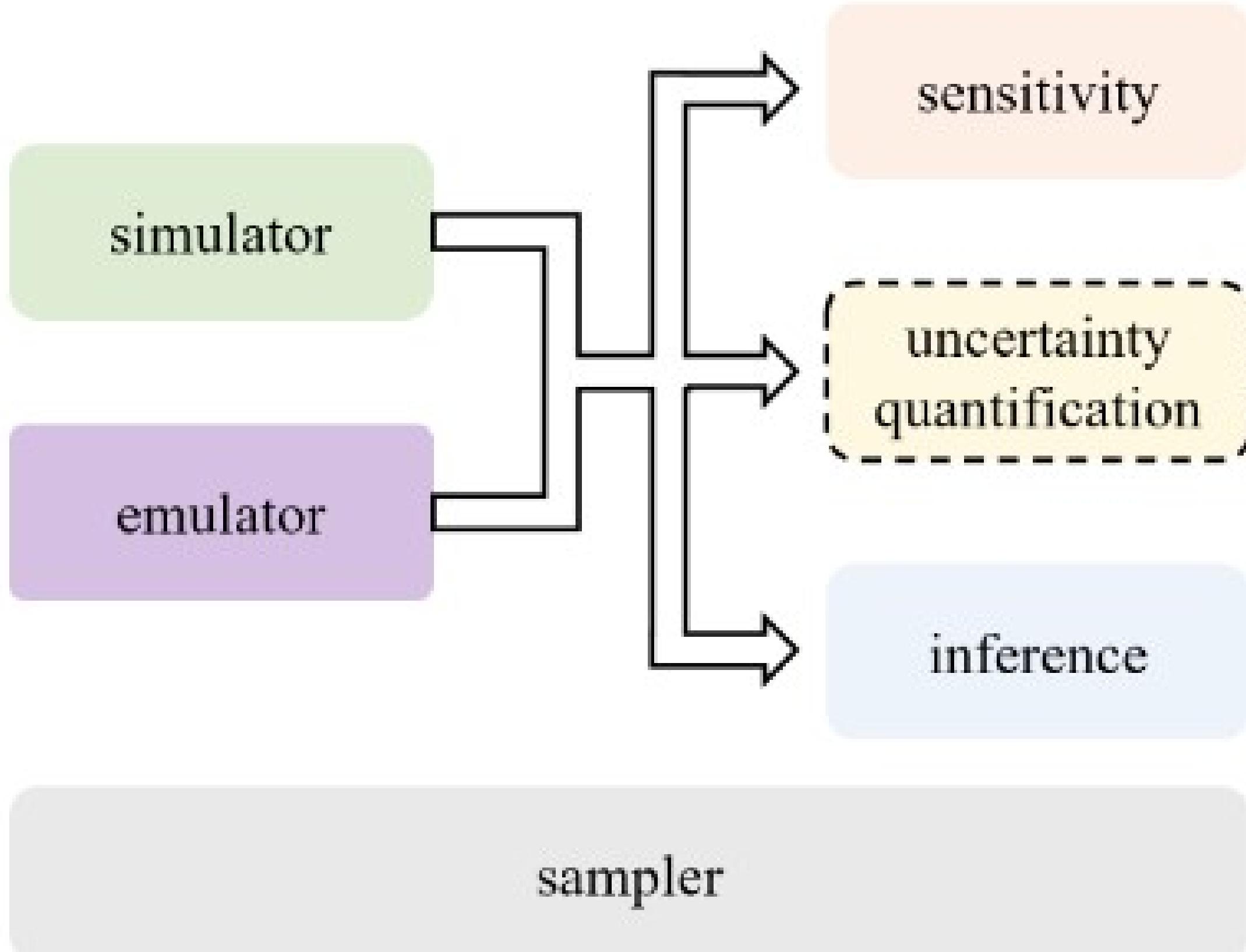
Gaussian Process, Multiphysics Simulation



Acknowledgments

THIS POSTER IS STILL UNDER
CONSTRUCTION!! ! ! ! ! ! ! ! !

Main Structure



Features

- Gaussian process-based uncertainty framework
- Fast emulation of expensive simulators
- Supports global sensitivity analysis
- Probabilistic uncertainty quantification
- Parameter calibration and inference
- Scalar and multi-output GP emulators

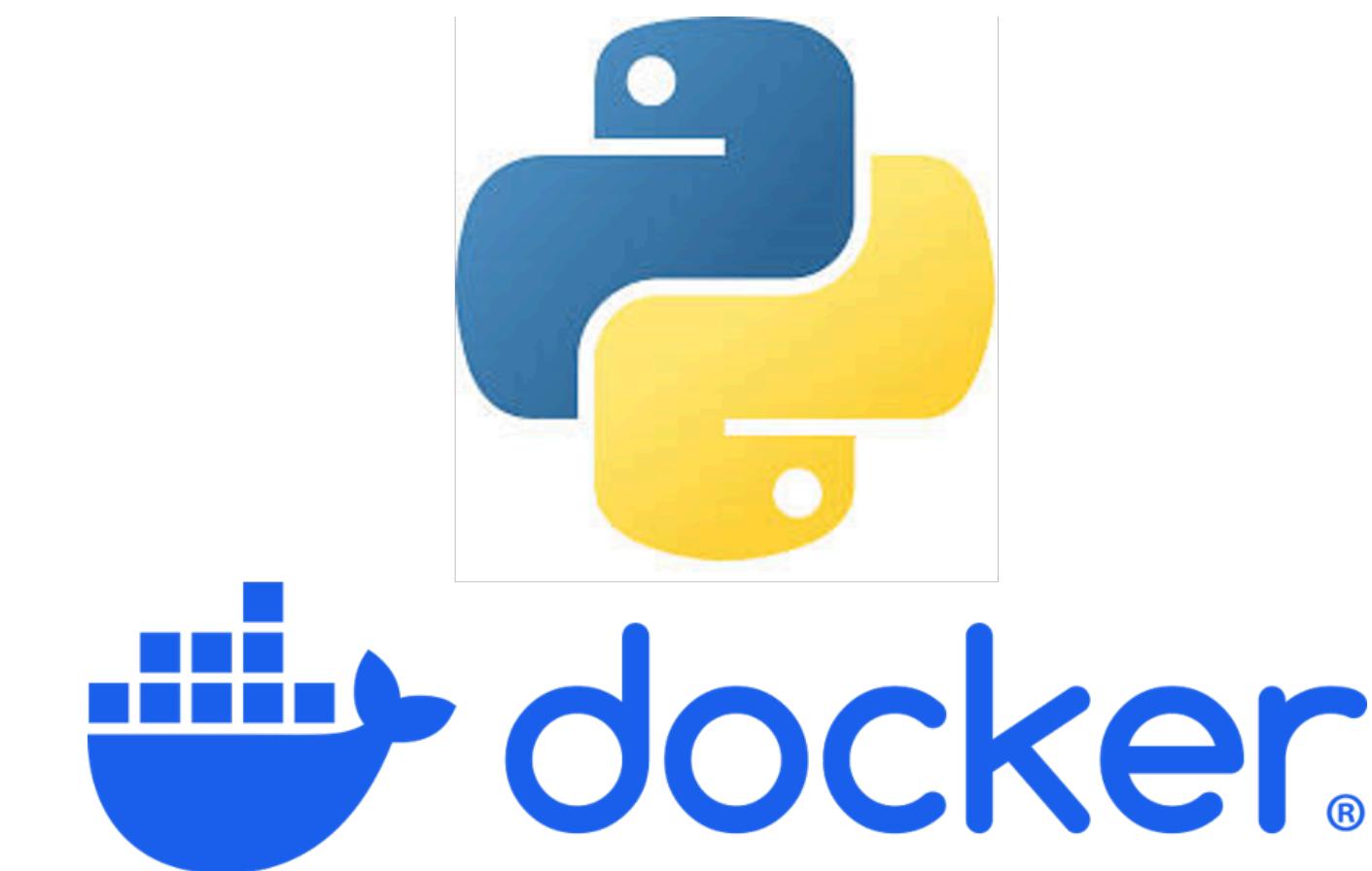
PSimPy

[1]

Supported FEM APIs

Usage

Python based workflows allow for rapid prototyping of models and numerical methods.



Get started right away with bryne using Docker Containers

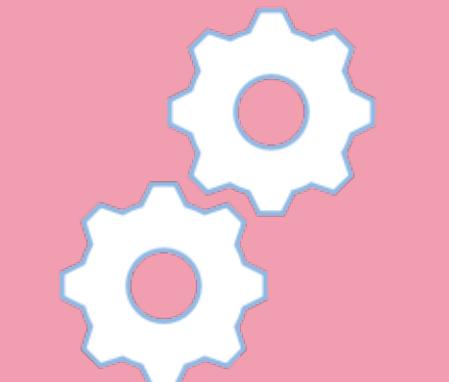
Bibliography

- [1] H. Zhao, A. Yildiz, N. Bagherinejad, and J. Kowalski, “PSimPy: GP emulation-based sensitivity analysis, uncertainty quantification and calibration of landslide simulators,” in *14th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP14*, Dublin, Ireland, 2023.

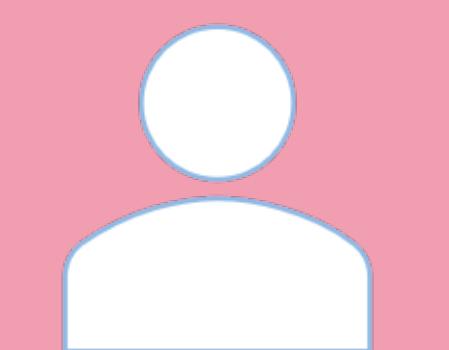
Overview



Documentation



Examples



Contact

