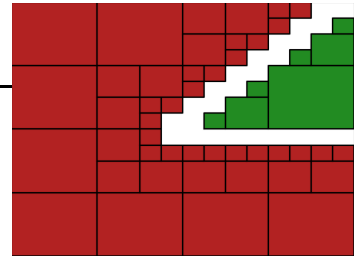


# PaSyPy

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A python-based tool using parameter synthesis to find safe and unsafe regions of the parameter space.



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## 1. Installation

To install this tool, clone the directory and install all dependencies:

- `z3-solver`
- `matplotlib`
- `scikit-learn`
- `numpy`

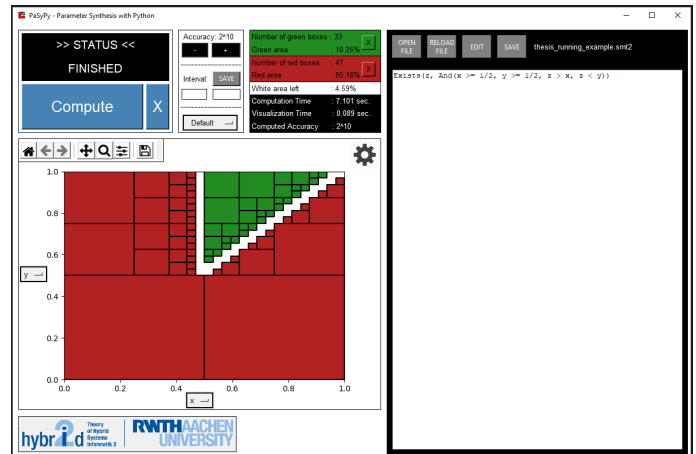
All dependencies are also included in `requirements.txt` and can be installed by `pip install -r requirements.txt`.

## 2. Functionality / Usage

To start this tool, simply execute `__main__.py`.

### Functionality:

- **SMT-LIB Support:** Read `.smt2` files or define your own formula in the text field.
- **Find safe and unsafe regions:** Separate the whole region of the parameter space into *safe* (green) and *unsafe* (red) regions. Select from different *splitting heuristics* to obtain optimal results.
- **Visualization:** Get a visualization for found *safe* (green) and *unsafe* (red) regions. Choose which parameters you want to see.
- **Information:** Lots of different information about your computation.
- **Settings:** Several settings available.



## 3. Suggestions / Bug reports

If you encounter any problems while using this tool or have any suggestions or feedback, feel free to contact me.

Read the [Known challenges](#) section in the [documentation](#) first for a listing of all problems and suggestions.