

## Invariant Inference Framework

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# Chapter 1

## Invariant Inference Framework:

This is the result of our implementation of the paper [An Invariant Inference Framework by Active Learning and SVMs](#) by Li Jiaying.

For you to run the experiments on your own machine, please follow the steps below to set up your experiment environment.

### Work on Invariant Inference Framework

To build the framework currently is very easy, there is not much dependencies you need to satisfy before build the whole project.

Dependencies, for Windows/Linux/MacOSX Users:

- **cmake** version 2.8 or later.
- **libsvm** remember to put {libsvm}/bin folder into \$PATH.
- **klee** This is optional currently.
- [Build tools](), such as make, Visual Studio 2015, or Xcode.

### ###Build InvariantInferenceFramework

```
1 git clone git@github.com:lijiaying/InvariantInferenceFramework.git
2 cd InvariantInferenceFramework
3 cd test
4 mkdir build
5 cd build
6 cmake .. -G [your platform] // just use cmake .. if you are not sure
7 make
8 ./IIF_learn
```

### Add your tests to this framework

As InvariantInferenceFramework is integrated with your examples, you need to do some modification on source code level before you can test your examples.

- rewrite your loop code in a function with the name you like, my\_loop\_example for instance
- put the function in {examples/examples.cpp} or create a new file contains the function and remember to include "../include/header.h"
- edit file {include/config.h}, add "define my\_loop\_example m", and "#define VARS (the number of parameters in your loop)"
- make your project and then run the executable file

**Experiments results:**

- `simple2`
- `simple3`
- `ex1`
- `f1a`
- `f2`
- `substring1`