
Emotif*AlphaDocumentation*

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CHAPTER 1

General principles

A typical Emotif Alpha command looks like this:

```
Emotif_Alpha -jid myJobID -confFile motif.config
```


CHAPTER 2

Installation

Step 0: Anaconda python 2.7

Currently, Emotif Alpha is only working in python2.7. The next release will be updated to python 3.

Step 1: Install GimmeMotifs

GimmeMotifs GimmeMotifs is a collection of motif discovery tools. The most straightforward way to install GimmeMotifs (<https://github.com/simonvh/gimmemotifs>) is:

```
conda install -c bioconda gimmemotifs
```

Step 2: Install DME

In the next release, I will include these commands inside setup.py.

```
git clone https://github.com/smithlabcode/dme
cd dme
https://github.com/smithlabcode/smithlab_cpp.git
make
./dme2 (you should be able to see the help message)
```

If you see an error when compiling the source code, one possible reason is that you don't have the latest gcc version. The one I'm using is gcc/6.3.0.

Step 2: Install DECOD

```
wget http://www.sb.cs.cmu.edu/DECOD/download/DECOD-V1.01-20111024.zip
unzip DECOD-V1.01-20111024.zip
java -jar DECOD-20111024.jar -nogui (you should be able to see the help message)
```

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```
# add to bashrc  
alias decod='java -jar /home/yl111/Programs/jar_tools/DECOD-20111024.jar -nogui'
```

Step 3: Install scikit-learn and BioPython

```
conda install -c anaconda scikit-learn  
conda install -c conda-forge biopython
```

Step 4: Install R ggplot2

```
R  
install.packages("devtools")  
devtools::install_github("hadley/ggplot2")
```

Step 5: Install MEME suite

ref: http://meme-suite.org/doc/install.html?man_type=web

You will use meme, meme2images, and fimo here.

Step 4: Install Emotif Alpha

```
sudo python setup.py install
```


CHAPTER 3

Usage

TO OBTAIN A COPY OF SAMPLE CONFIGURATION FILE

```
Emotif_alpha -copy any_name.conf
```

TO RUN THE TEST DATASET

```
Emotif_alpha -jid some_name -confFile any_name.conf
```


CHAPTER 4

The pipeline configuration file

CHAPTER 5

FAQ

- (1) wrong GimmeMotifs command? Depends on the GimmeMotifs version, the command in the motif_discovery.py might not be correct. It is in line 364.