

**Gebze Technical University**  
**Department of Computer Engineering**  
**CSE 654 / 484**  
**Fall 2023**

**Homework 01**  
**Due date: Dec 25<sup>th</sup> 2023**

In this homework, you will use a finite state transducer library to do simple Turkish morphology work. Our library is <https://pypi.org/project/openfst-python/> OpenFST. The Turkish morphology rules will be (1) Plural suffix (çoğul eki) and (2) Possessive suffix (iyelik eki) .

Here are the steps of the homework

1. Write your rules in OpenFST and visualize them.
2. Chose 10 Turkish words and test your rules on them with morphological derivations of these words.

Prepare your report and submit it to the Teams page along with your Jupyter notebook. Your report should include visualization of the FSTs. Include many examples with correct and wrong(if any) results.

From our classmate Burak

installed the OpenFST library as follows:

- 1- Download version 1.7.2. Link: <https://www.openfst.org/twiki/bin/view/FST/FstDownload>
- 2- \$ ./configure --enable-far
- 3- \$ make
- 4- \$ make install
- 5- \$ pip install openfst

Notes:

- Import pywrapfst instead of openfst\_python
- Python 3.6 or better
- I installed it on Ubuntu and WSL

If an error such **ImportError: libfstfar.so.16: cannot open shared object file: No such file or directory** occurs, locate the file (might not be libfstfar.so.16), and create symbolic link.

example:

```
sudo ln -s /usr/local/lib/libfstfar.so.16 /usr/lib/libfstfar.so.16
```

Documents for installation: INSTALL file in openfst-1.7.2.tar.gz, and

<https://www.openfst.org/twiki/bin/view/FST/PythonExtension>

