Writing Your First Package

SOFTWARE ENGINEERING PRINCIPLES IN PYTHON

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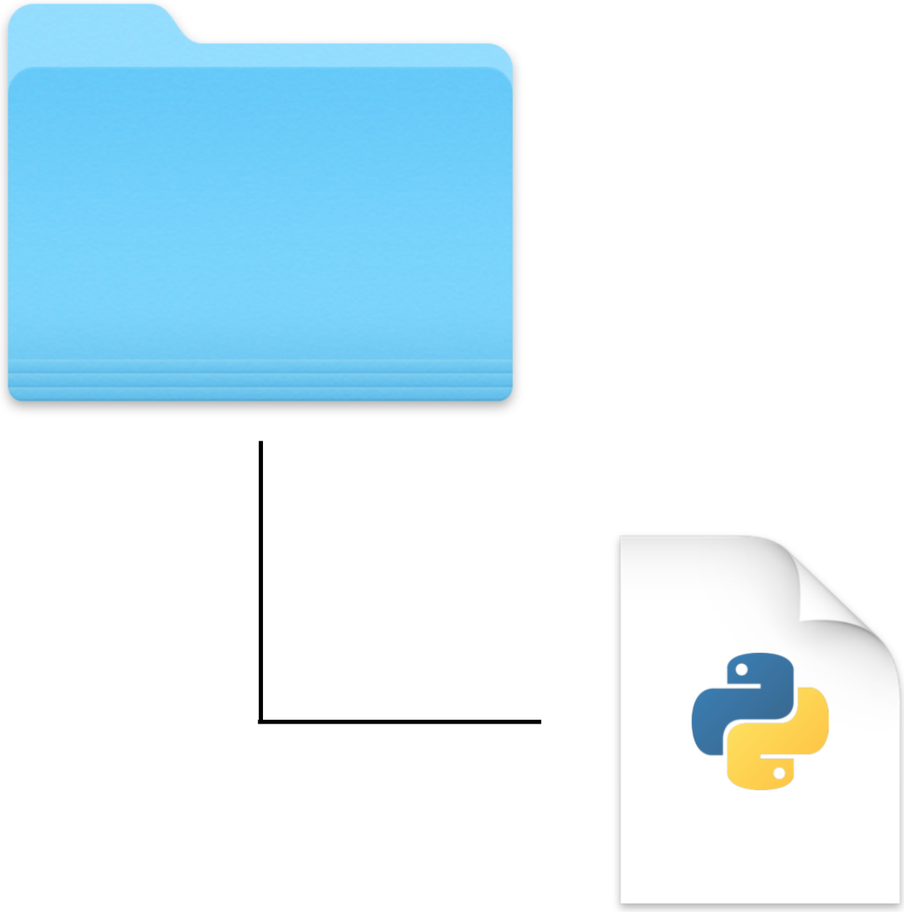
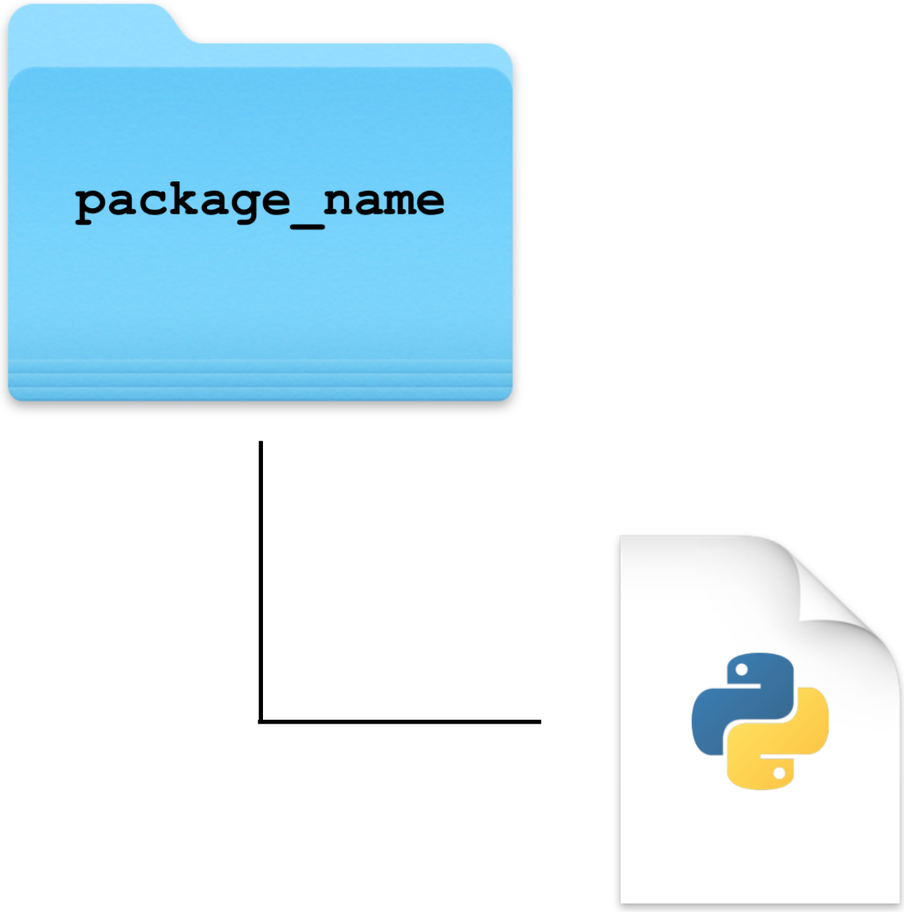
Machine Learning Engineer at Eastman

datacamp

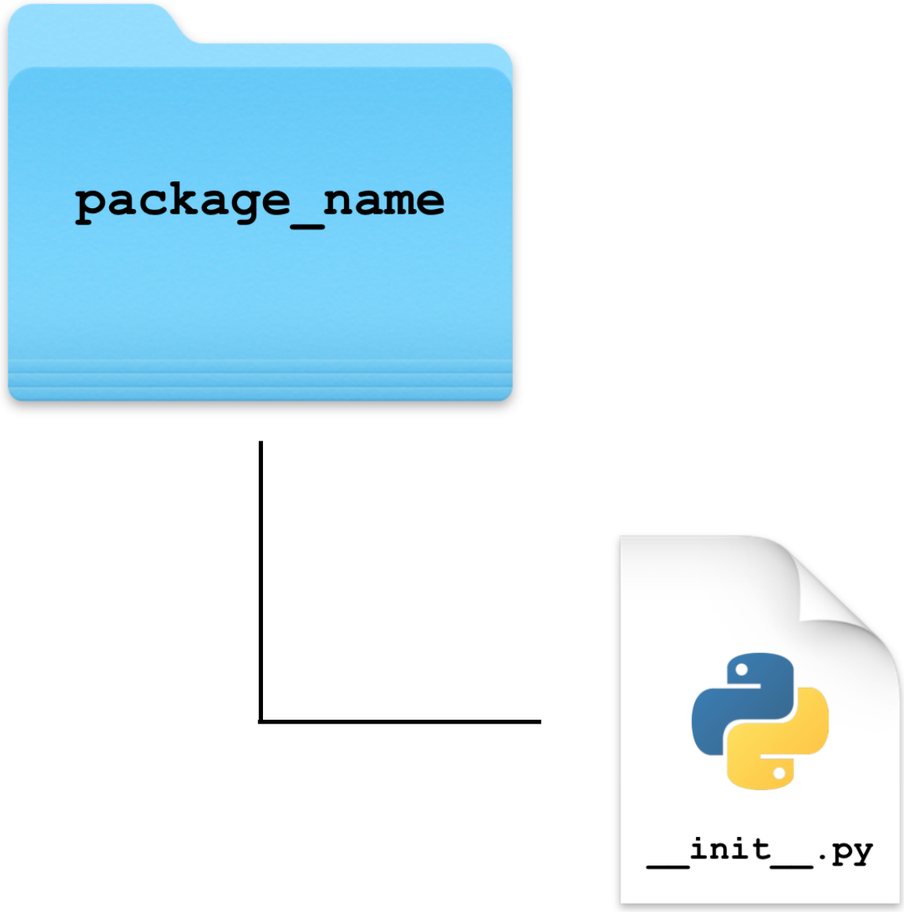
Package structure



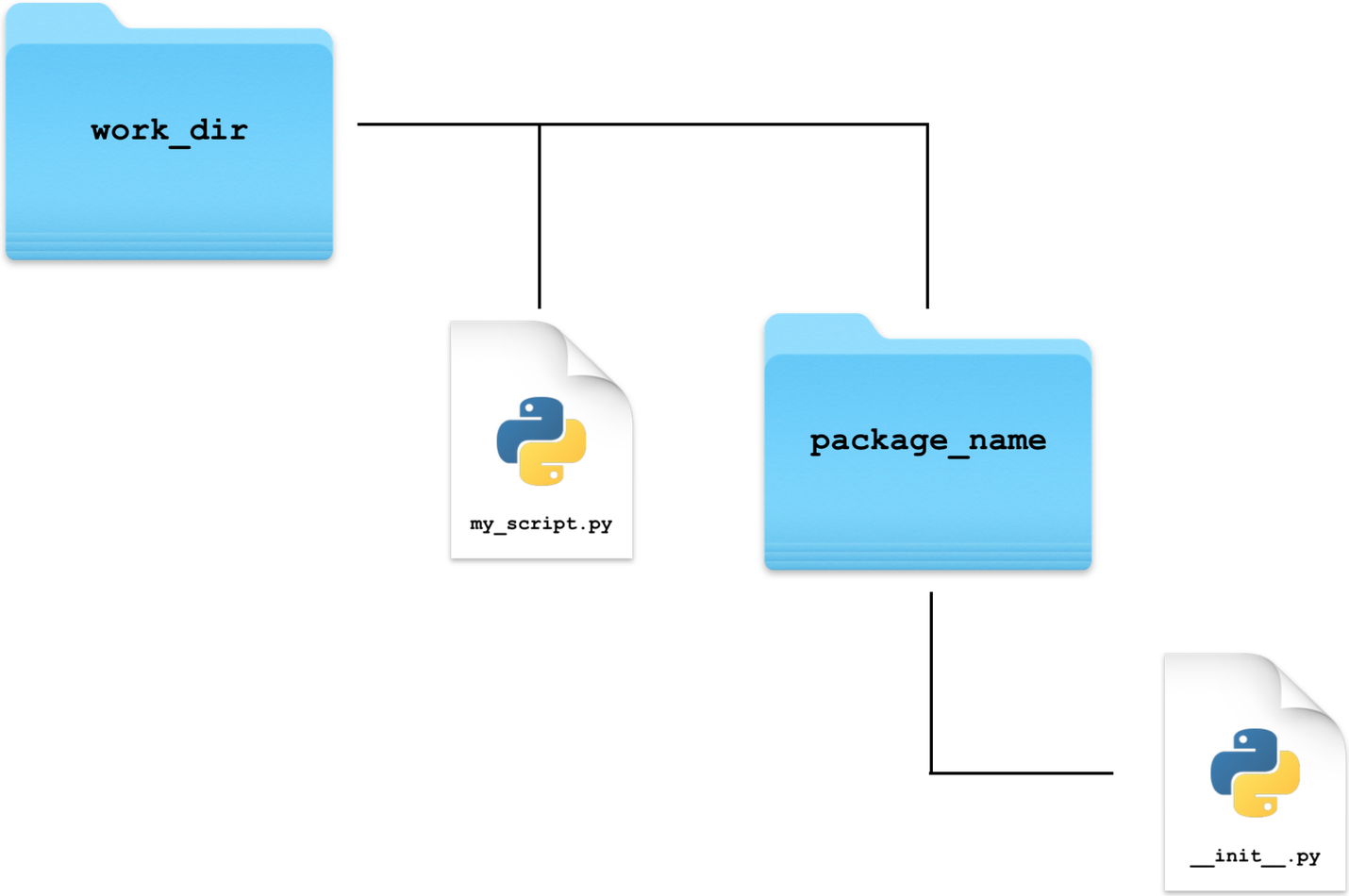
Package structure



Package structure



Importing a local package



Importing a local package

```
import my_package
help(my_package)
```

```
Help on package my_package:
NAME
    my_package

PACKAGE CONTENTS
FILE
    ~/work_dir/my_package/__init__.py
```

Let's Practice

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Adding Functionality to Packages

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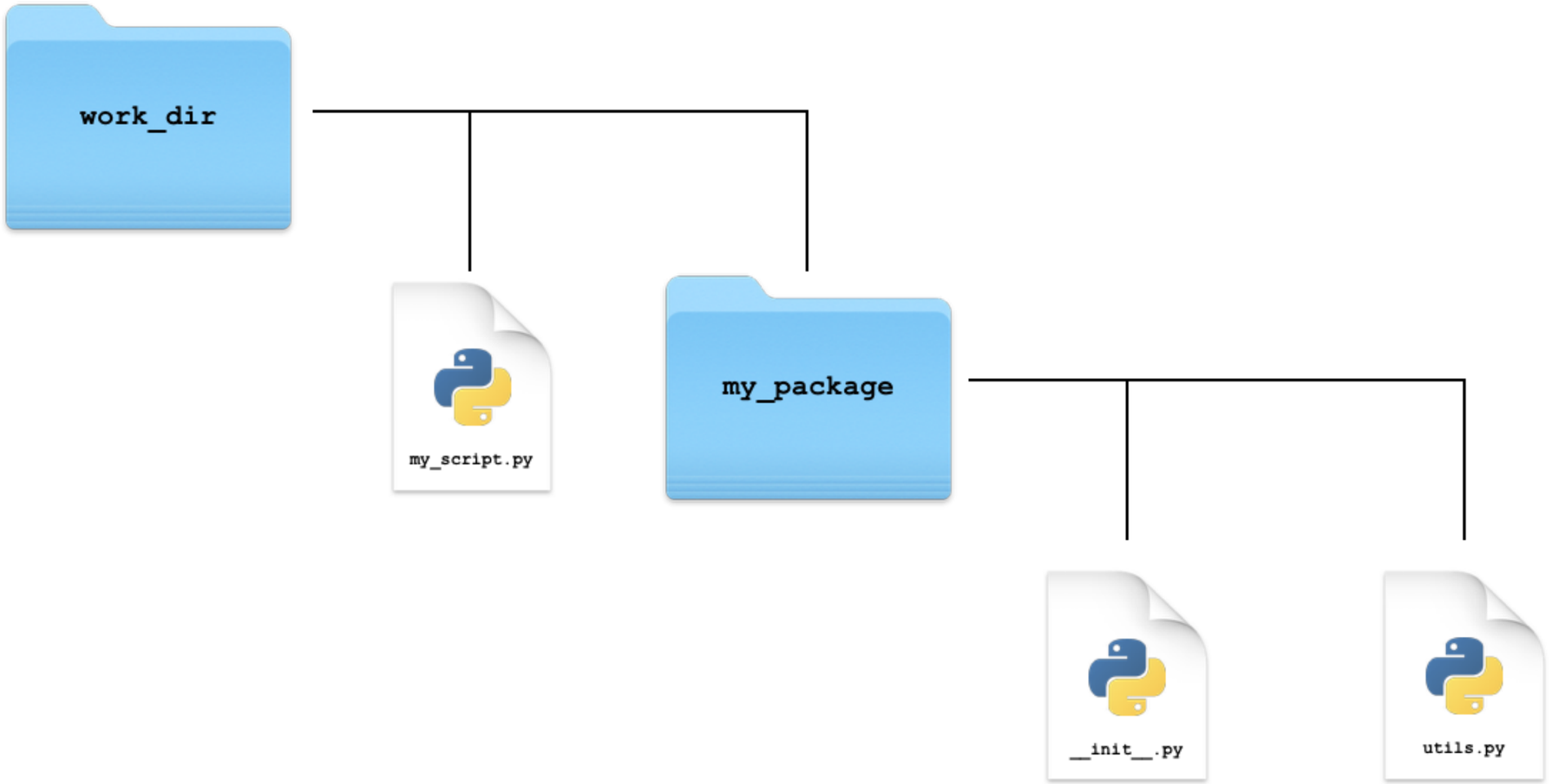


Adding functionality

working in `work_dir/my_package/utils.py`

```
def we_need_to_talk(break_up=False):
    """Helper for communicating with significant other"""
    if break_up:
        print("It's not you, it's me...")
    else:
        print('I <3 U!')
```

working in `work_dir/my_script.py`

```
# Import utils submodule
import my_package.utils

# Decide to start seeing other people
my_package.utils.we_need_to_talk(break_up=True)
```

```
It's not you, it's me...
```

Importing functionality with __init__.py

working in `work_dir/my_package/__init__.py`

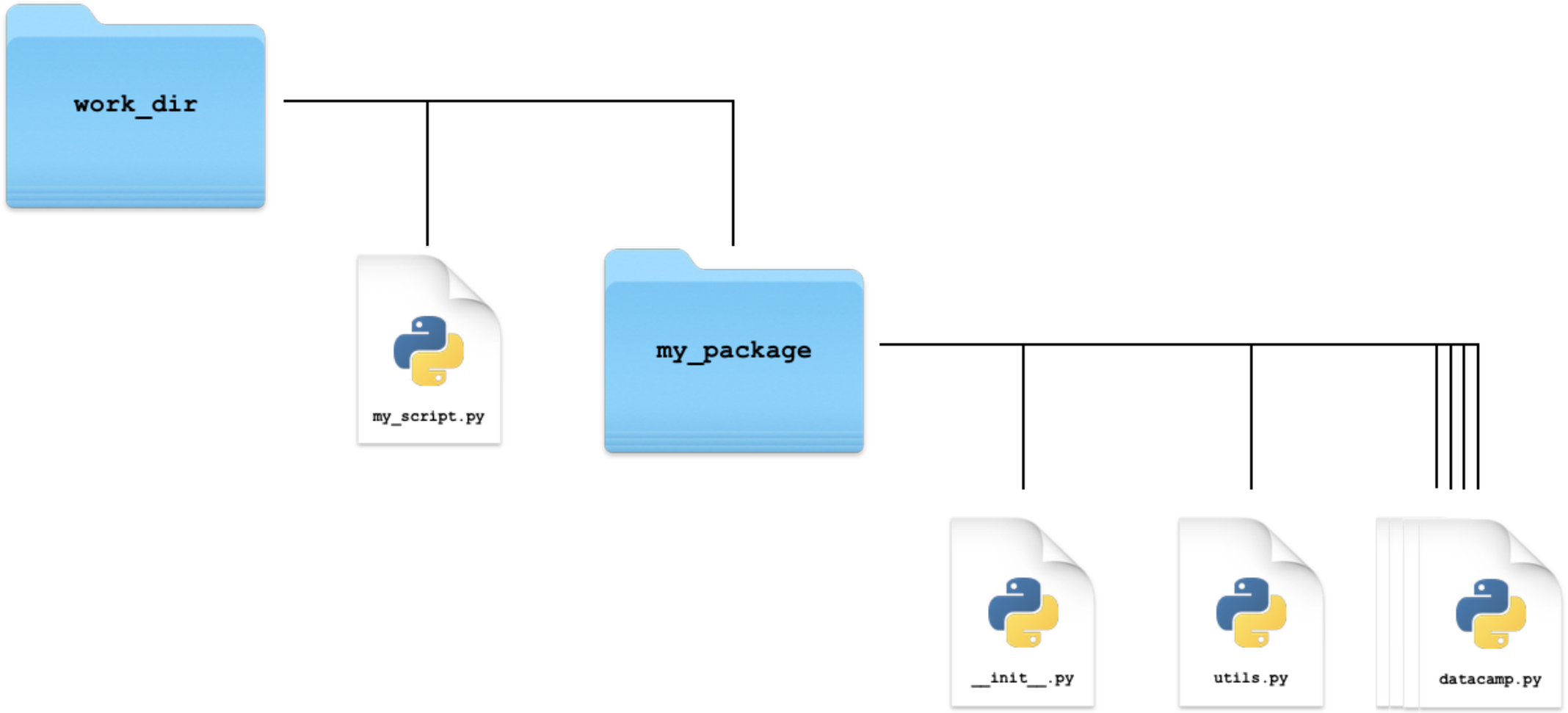
```
from .utils import we_need_to_talk
```

working in `work_dir/my_script.py`

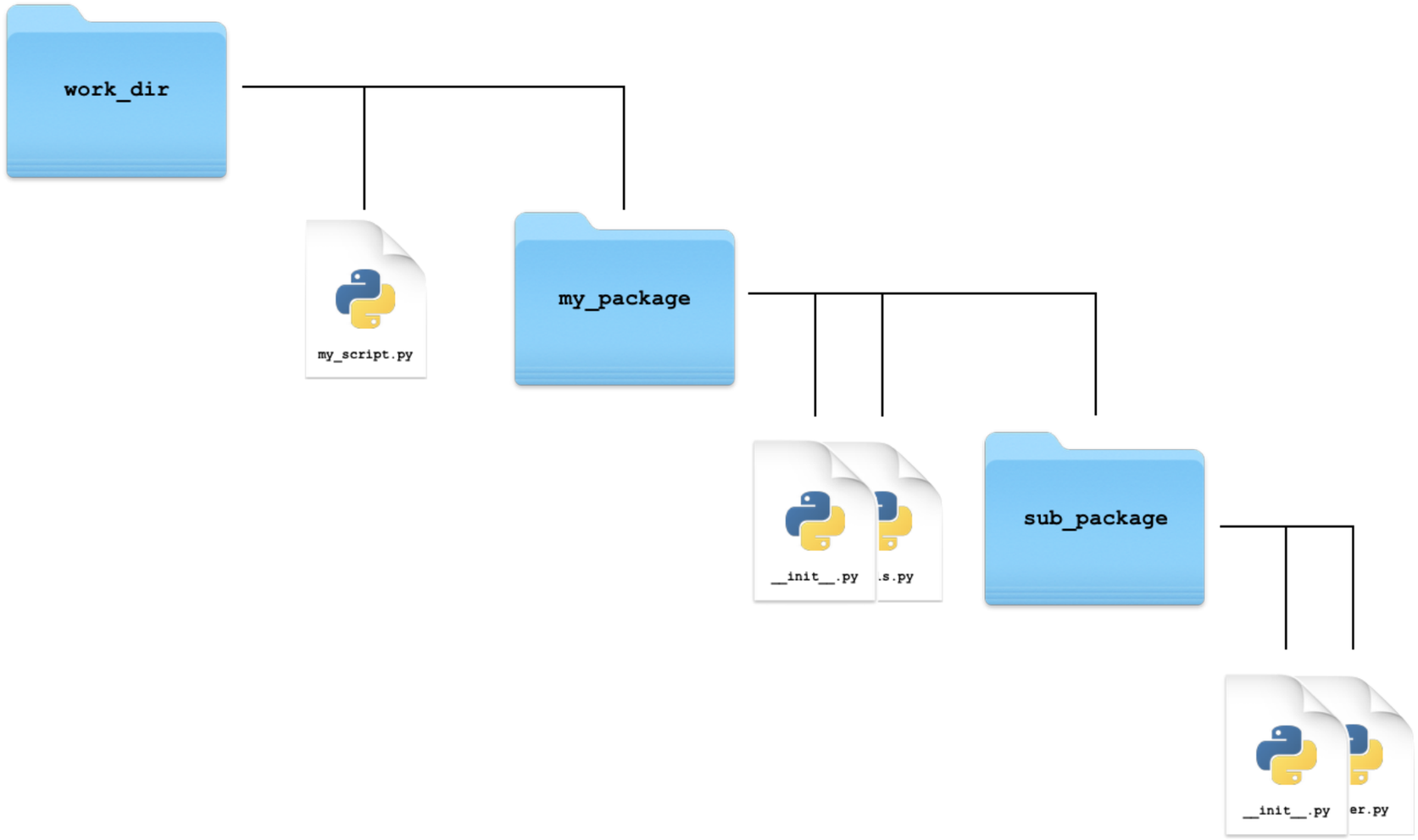
```
# Import custom package
import my_package

# Realize you're with your soulmate
my_package.we_need_to_talk(break_up=False)
```

```
I <3 U!
```

Extending package structure



Extending package structure



Let's Practice

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Making your package portable

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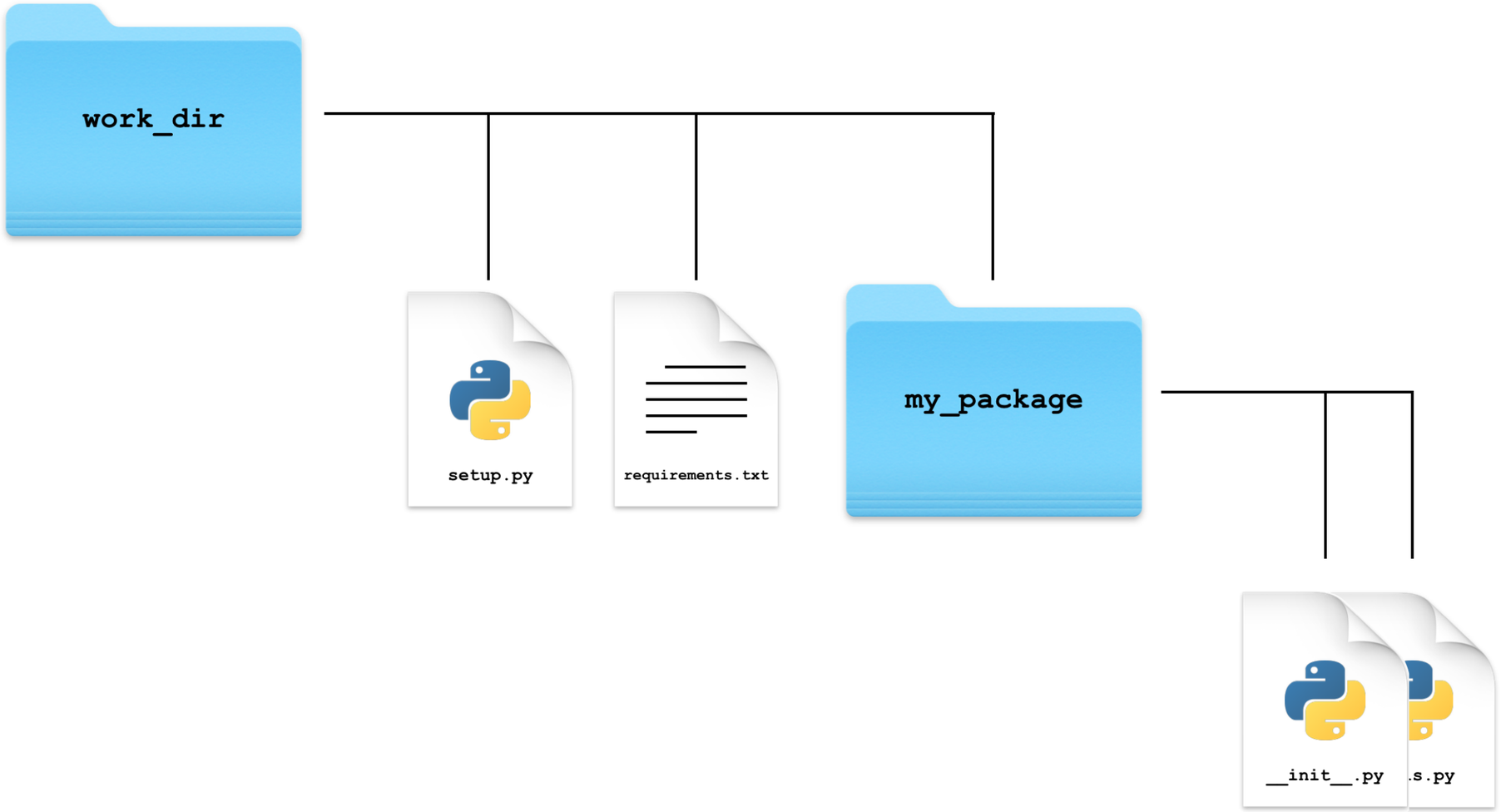
Steps to portability

Portable package structure



Contents of requirements.txt

working in `work_dir/requirements.txt`

```
# Needed packages/versions
matplotlib
numpy==1.15.4
pycodestyle>=2.4.0
```

working with `terminal`

```
datacamp@server:~$ pip install -r requirements.txt
```

Contents of setup.py

```
from setuptools import setup

setup(name='my_package',
      version='0.0.1',
      description='An example package for DataCamp.',
      author='Adam Spannbauer',
      author_email='spannbaueradam@gmail.com',
      packages=['my_package'],
      install_requires=['matplotlib',
                        'numpy==1.15.4',
                        'pycodestyle>=2.4.0'])
```

install_requires vs requirements.txt

working in `work_dir/requirements.txt`

```
# Specify where to install requirements from
--index-url https://pypi.python.org/simple/

# Needed packages/versions
matplotlib
numpy==1.15.4
pycodestyle>=2.4.0
```

Documentation: **install_requires vs requirements files**

pip installing your package

```
datacamp@server:~/work_dir $ pip install .
```

```
Building wheels for collected packages: my-package
  Running setup.py bdist_wheel for my-package ... done
Successfully built my-package
Installing collected packages: my-package
Successfully installed my-package-0.0.1
```

Let's Practice

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