Writing Your First Package

SOFTWARE ENGINEERING FOR DATA SCIENTISTS IN PYTHON
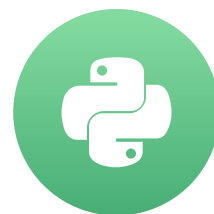
Adam Spannbauer

Machine Learning Engineer at Eastman

Making your package portable

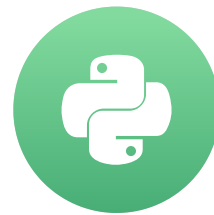## SOFTWARE ENGINEERING FOR DATA SCIENTISTS IN PYTHON

Adam Spannbauer

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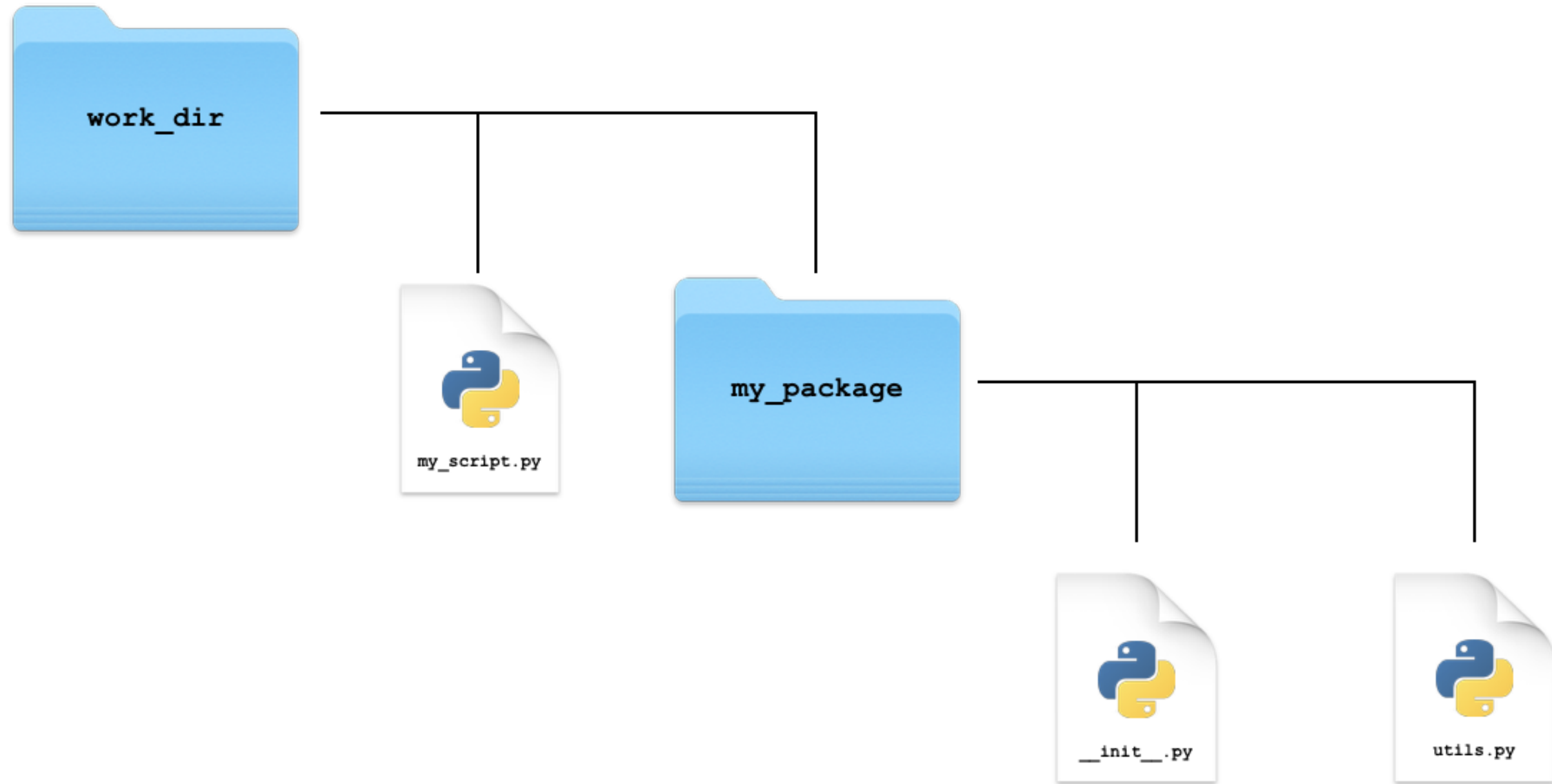# Adding Functionality to Packages

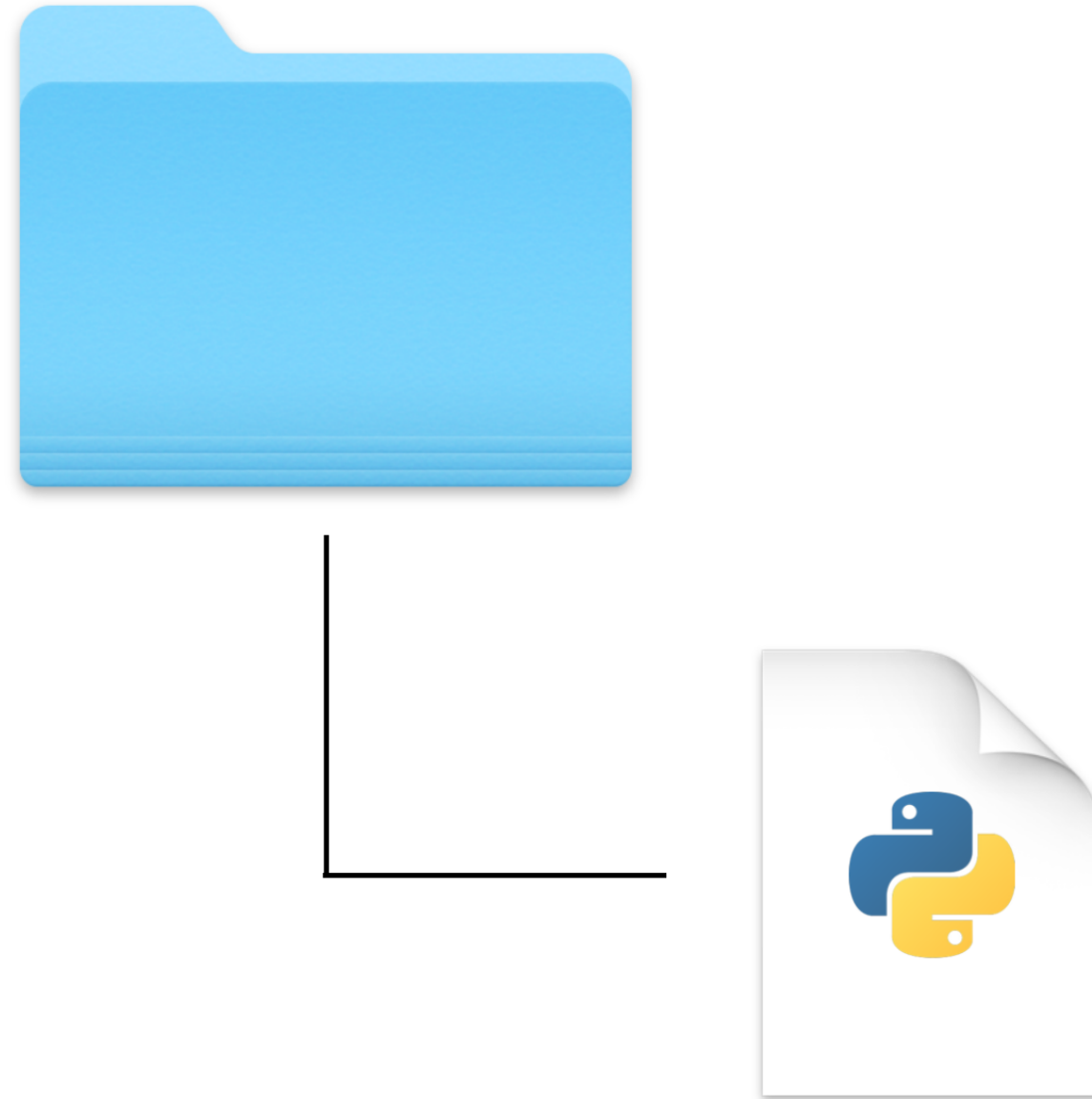SOFTWARE ENGINEERING FOR DATA SCIENTISTS IN PYTHON

Adam Spannbauer
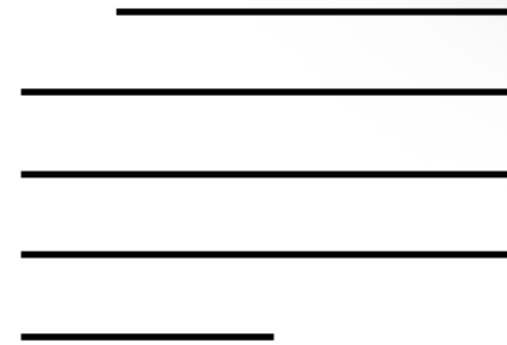Machine Learning Engineer at Eastman

Package structure
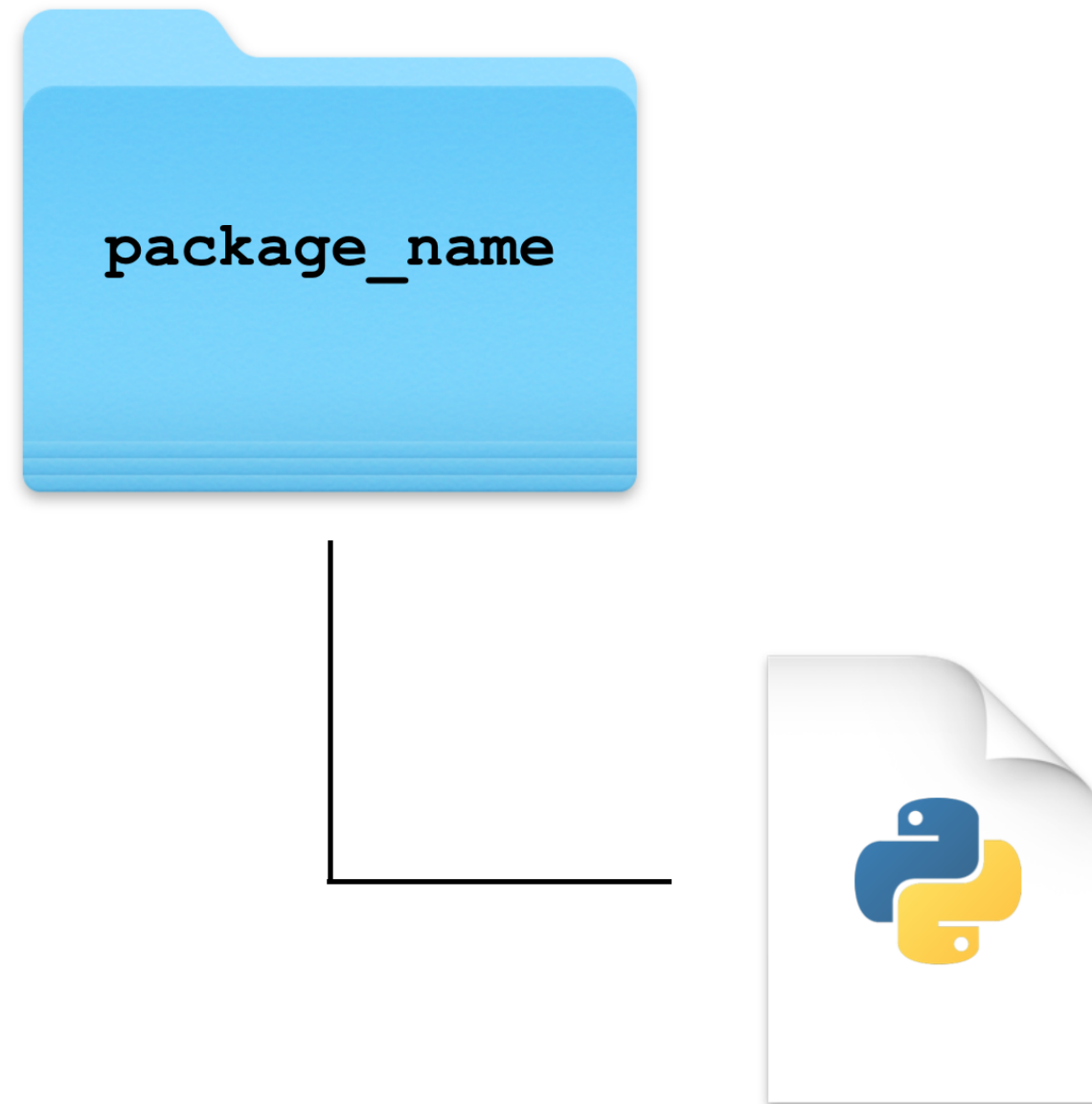
Package structure

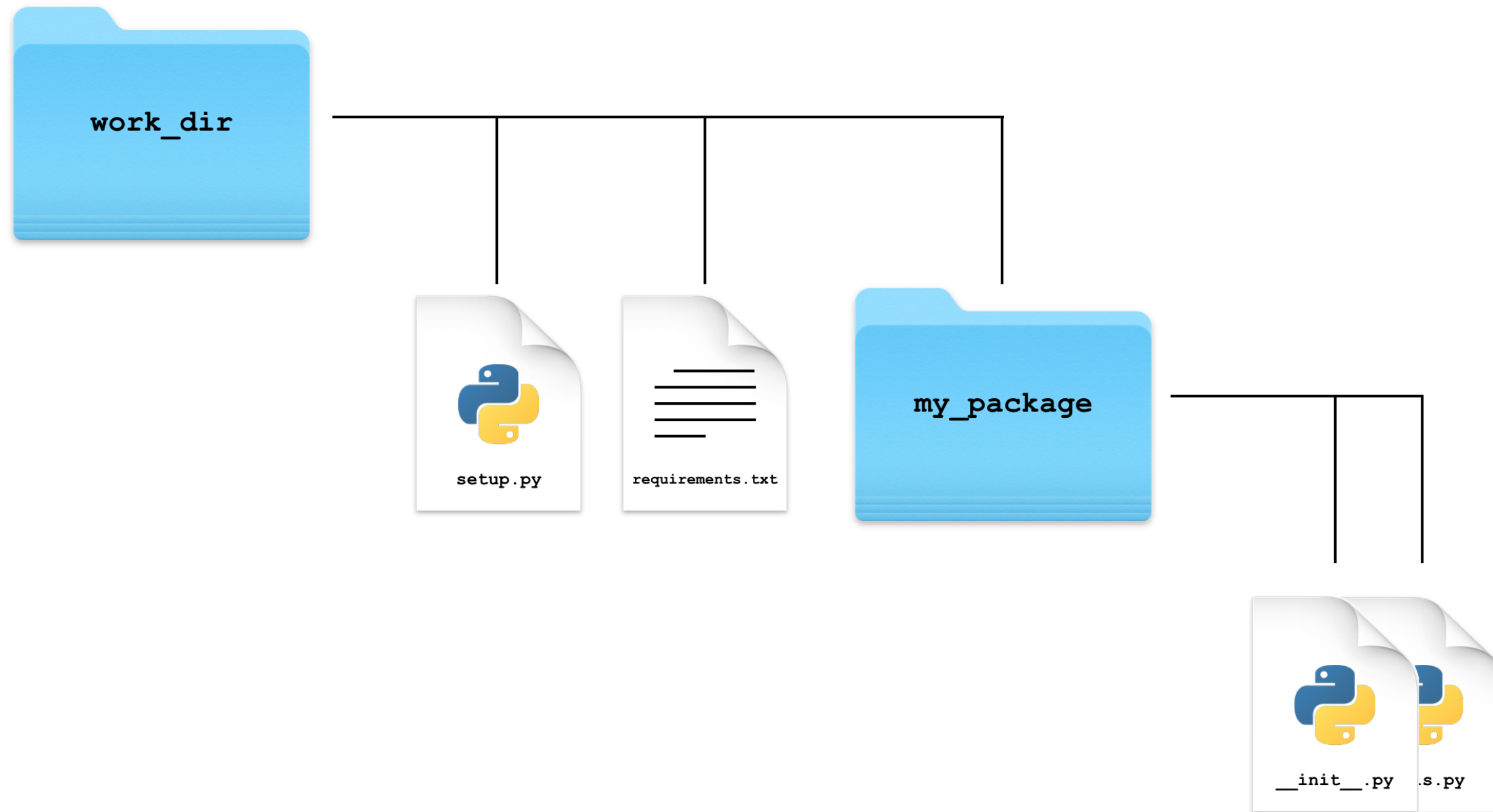# Steps to portability

setup.py

requirements.txt

Package structure

Portable package structure

Adding functionality

working in `work_dir/my_package/utils.py`

```python
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`

```python
# Import utils submodule
import my_package.utils

# Decide to start seeing other people
```
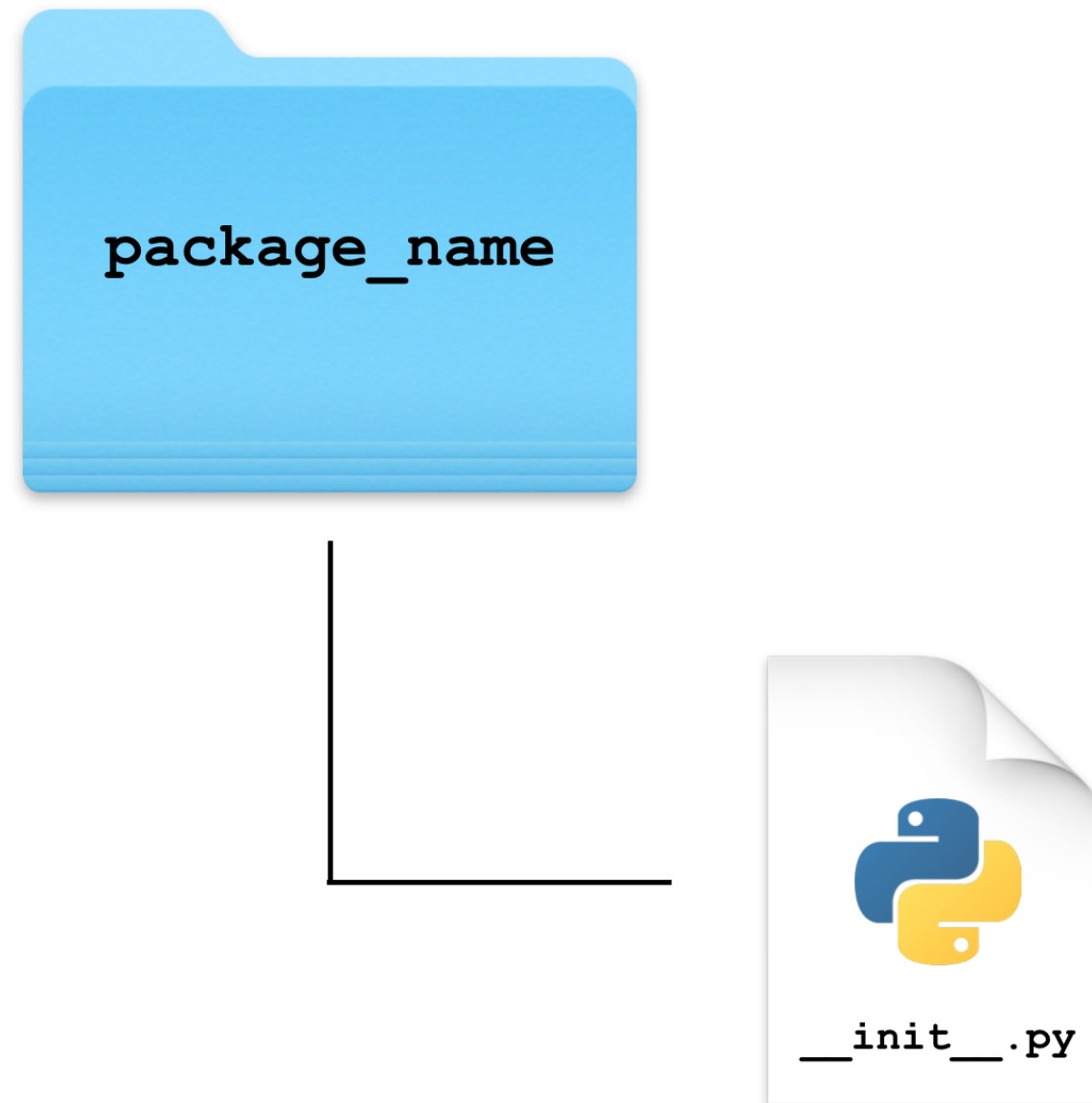
Contents of requirements.txt

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
```

Package structure

package_name

__init__.py

Importing functionality with __init__.py

working in   *work_dir/my_package/__init__.py*

```python
from .utils import we_need_to_talk
```
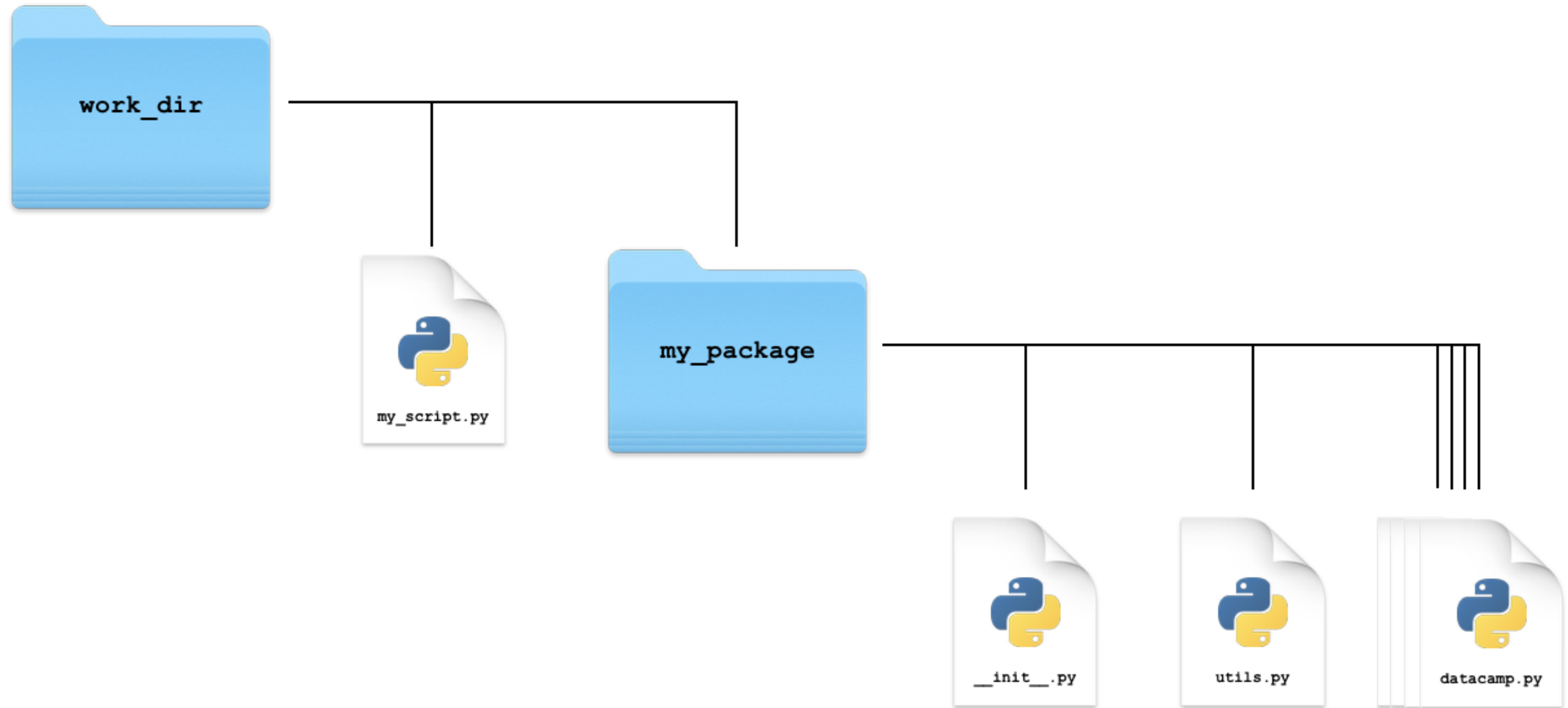
working in   *work_dir/my_script.py*
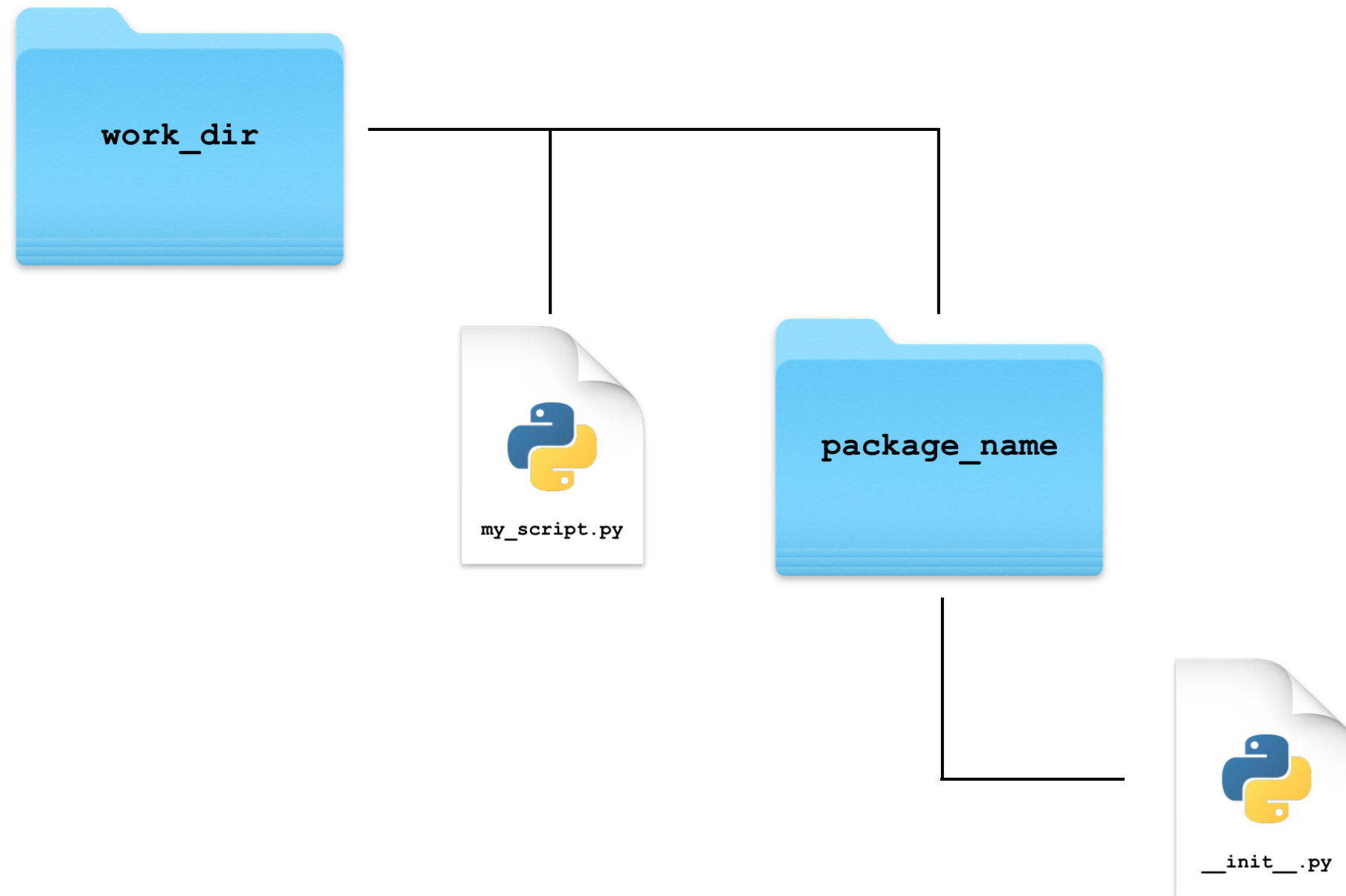
```python
# Import custom package
import my_package

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

```
I <3 U!
```

Extending package structure

Importing a local package

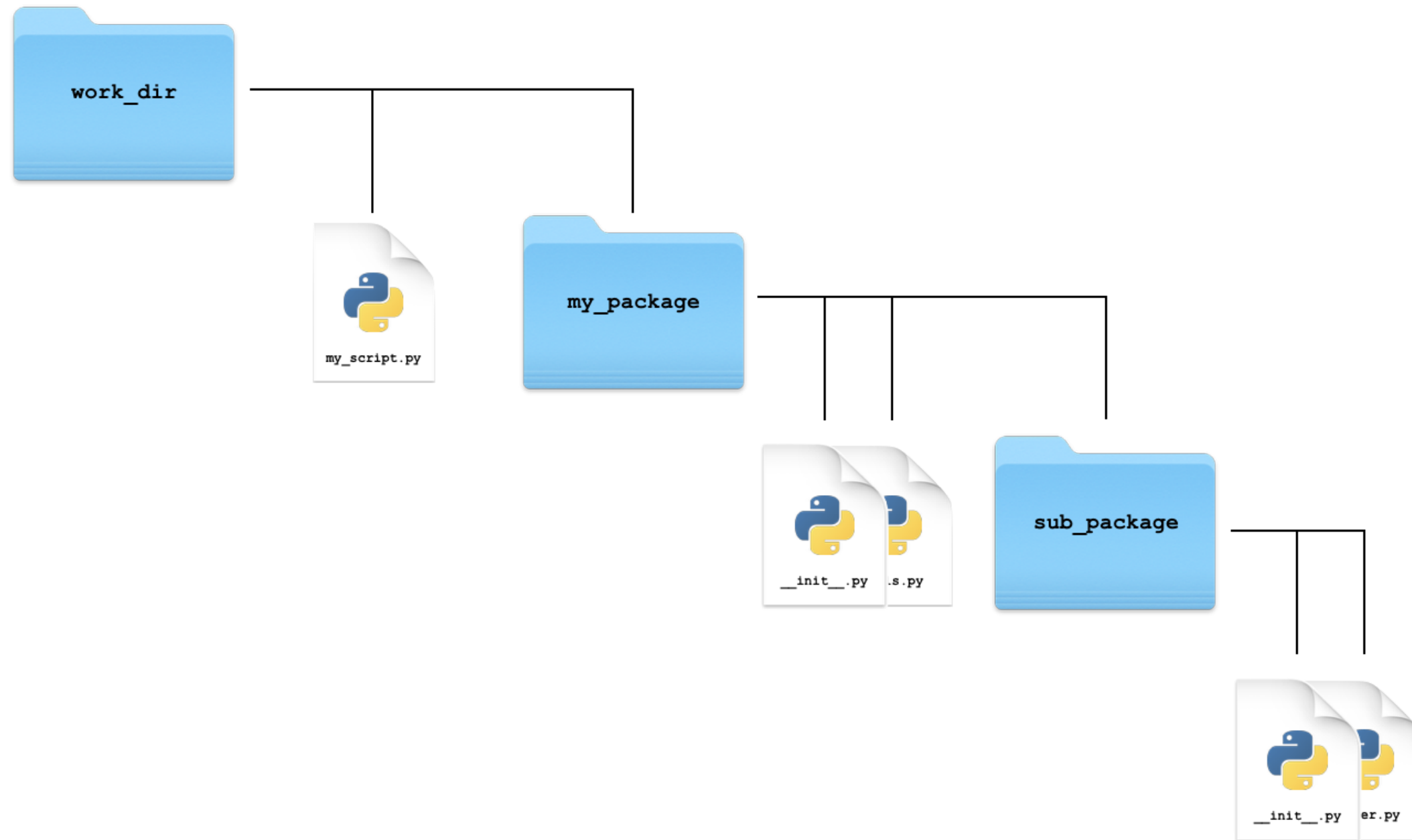# Contents of setup.py

```python
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'])
```

Extending package structure

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
```

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**

Let's Practice

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Let's Practice

SOFTWARE ENGINEERING FOR DATA SCIENTISTS IN PYTHON

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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