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From content to user

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HAVE YOU FAILED TO REPRODUCE AN EXPERIMENT?
Most scientists have experienced failure to reproduce results.

- Chemistry
- Biology
- Physics and engineering
- Medicine
- Earth and environment
- Other

Nature 533, 452–454 (26 May 2016) doi:10.1038/533452a
What is Code Ocean?

Code Ocean is a cloud-based executable research platform.

It allows authors to upload their algorithms, and link them back to their articles.

The authors and other researchers can run the code, to test for reproducible results, and also execute the code with new input values.
```python
import numpy as np
import matplotlib.pyplot as plt
import tensorflow as tf
import SiameseDatasetGenerator as dh
import SiameseDataHandlerDemo as dh
import Siamese as Siamese
from mpl_toolkits.mplot3d import Axes3D
import sklearn.metrics as met
import sklearn.metrics as met

if dataset == 'dummy':
    S1_train, S2_train, y1_train, y2_train = ...

# normalize data
S1_train, S2_train = dh.standard_scale(S1_train, S2_train)

# cut a subset for validation
n = S1_train.shape[0]
valSet_1 = S1_train[n-1]  # (n-1)
valSet_2 = S2_train[n-1]  # (n-1)
X_val_1, X_val_2, yVal_targets = dh.get_random...
```

Image: Diffusion embedding of sensor Number 1 code.png.png
An unbiased oncology compound screen to identify novel combination strategies

Jennifer O’Neil, Yair Benita, Igor Feldman, Melissa Chenard, Brian Roberts, Yaping Liu, Jing Li, Astri Kral, Sergio Leijnse, Andrey Loboda, William Arthur, Razvan Cristescu, Brian B. Haines, Christopher Winter, Theresa Zhang, Andrew Bleacher and Stuart D. Shumway

Abstract

Combination drug therapy is a widely used paradigm for managing numerous human malignancies. In cancer treatment, additive and/or synergistic drug combinations can convert weakly efficacious monotherapies into regimens that produce robust anti-tumor activity. This can be explained in part through pathway interdependencies that are critical for cancer cell proliferation and survival. However, identification of the various interdependencies is difficult.
Why is it important?

Reproducibility
Code Ocean allows other researchers to run the code, to test for reproducible results, and also execute the code with new input values.

Impact
There is a positive correlation between the availability of code and software and the number of citations.

Reuse
Allows users to run multiple versions of the algorithm augmenting the code or/and using alternative inputs.

Move beyond the pdf
Brings authors work alive in an executable environment and provides a new level of engagement to end users.
Thank you for your time

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