Machine Learning Engineer
Interview Task

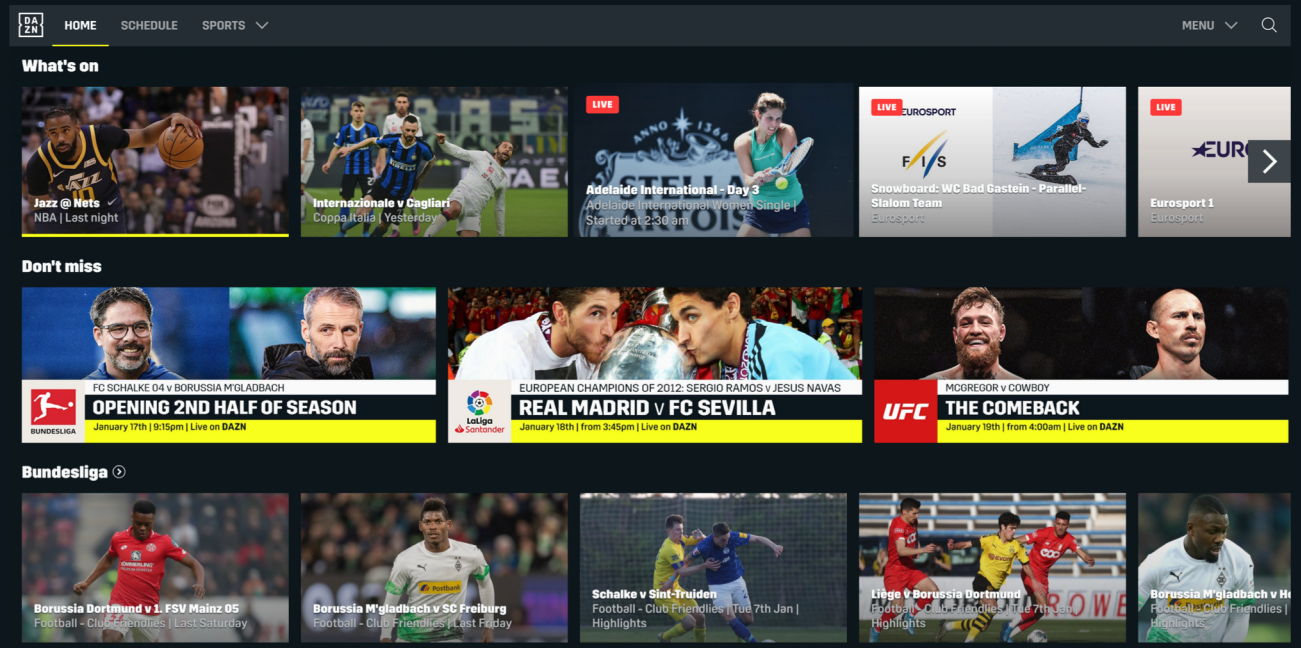
Applied Machine Learning

JANUARY 2020

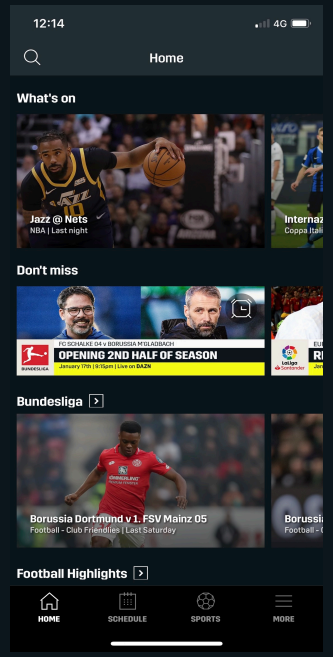
What is DAZN?

DAZN is the largest, fastest-growing global sports streaming service. It is leading the charge to give sports fans around the world affordable access to sport anytime, anywhere. DAZN guarantees no long-term contract, just one affordable price for access on connected devices including smart TVs, smartphones, tablets, desktop computers and games consoles. DAZN has been created by fans, for fans to give them a better and fairer way to watch sport. DAZN is available in Japan, Germany, Austria, Switzerland, Italy, Spain, Brazil, Canada and the U.S.

DAZN on Web and TV



DAZN APP on IOS and Android



The Task

Scenario:
You are working on a new computer vision project and are being asked to construct a data pipeline for loading and processing images. This pipeline will be used for initial model building for this project which will likely occur in a Jupyter notebook.

You have been provided with a .zip file containing some frames taken from DAZN content.
The objective of this assignment is to create a data pipeline that satisfies the following acceptance criteria:

- Read images from a local directory
- Ensure each image is 480 x 270 x 3 (Resize if required)
- Crop the image down to the central 270 x 270 x 3 region
- Randomly extract 3, 80 x 80 x 3 samples that do not overlap
- Allow for shuffling & separation into training & test sets. The proportions of which should be able to be defined by the end user. Samples from the same image should not appear in both training and test sets.

The Task – Things to think about

- How will other users interact with the code?
- How might the pipeline need changing in future?

For your face to face interview you should be prepared to discuss:

1. Given the data you have seen in this exercise, what sort of approaches could be used to identify different stages of a MotoGP race?
2. What models & system architectures might be appropriate and what would be the cost / benefit of these approaches?

The Task

Please submit a zip file containing your source code to:
christopher.walsh@dazn.com

If you have questions or require any clarification, please contact the same email address.

Good Luck!