

Deakin **SIMPSONS** AI CHALLENGE 2021

Webinar on Tuesday, March 16th

Mohamed Reda Bouadjenek



SCAN ME

Funded by
Community Bank
Deakin University
Bendigo Bank

Deakin University CRICOS Provider Code: 00113B

The Simpsons




DEAKIN
UNIVERSITY

Please note:
This session is recorded



- What is the Deakin Simpsons Challenge 2021?
- About the task
- Timeline
- Eligibility
- Prizes and Sponsors
- Benefit
- How to participate?
- Questions

What is the Deakin Simpsons Challenge 2021?



- A computer vision competition for recognizing Simpsons characters
- The challenge is designed to:
 - Provide the opportunity to work as team members
 - Compete against each other
 - Enhance your learning experience by improving their AI modeling, problem-solving, and team-working skills
- **Designed with the same norms as any challenge organized in a top-tier AI conference**

What do you have to do?

The machine learning framework

- Apply a prediction function to a feature representation of the image to get the desired output:

$f(\text{img of Homer Simpson}) = \text{"homer Simpsons"}$

$f(\text{img of Principal Skinner}) = \text{"principal skinner"}$

$f(\text{img of Moe Szyslak}) = \text{"Moe Szyslak"}$

What do you have to do?

The machine learning framework



$$y = f(x)$$

output prediction function Image feature

A diagram showing the equation $y = f(x)$ in large blue font. Below the equation, three labels are positioned: "output" under the y , "prediction function" under the f , and "Image feature" under the x . Red arrows point from each label up to its corresponding part of the equation.

- **Training:** given a training set of labeled examples $\{(x_1, y_1), \dots, (x_N, y_N)\}$, estimate the prediction function f by minimizing the prediction error on the training set
- **Testing:** apply f to a **never seen before** test example x and output the prediction $y = f(x)$

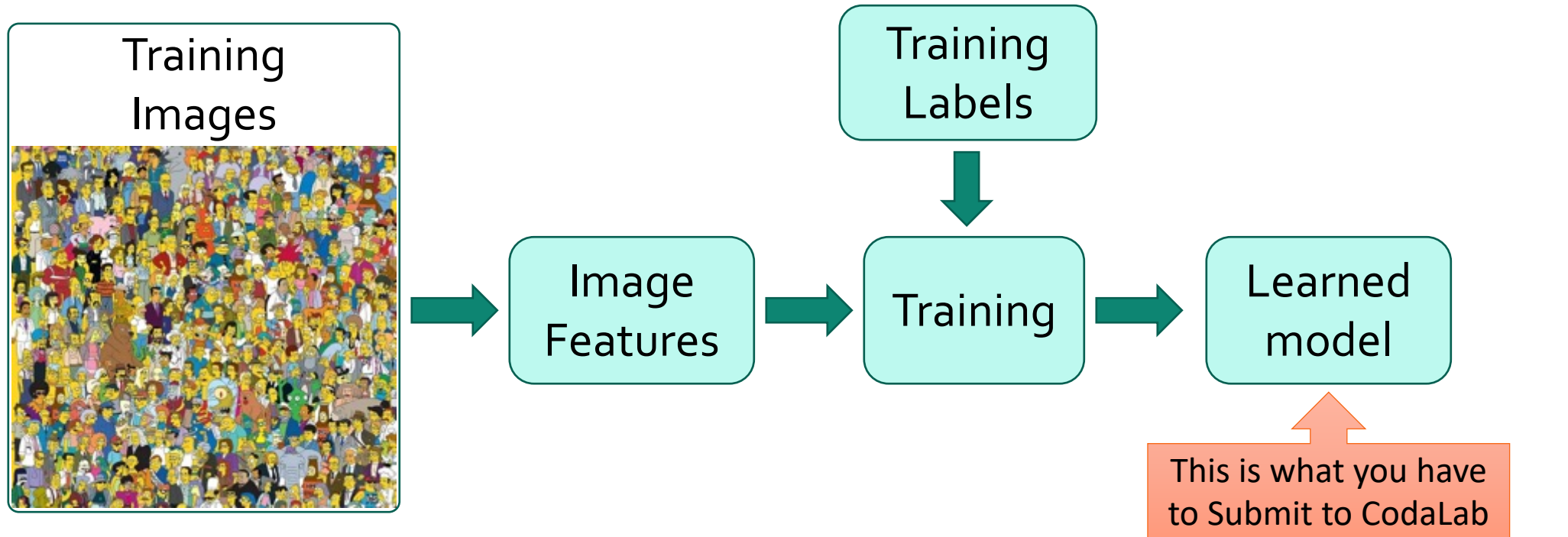
This is what CodaLab does!

An orange rectangular box with a white upward-pointing arrow on its top edge, pointing towards the "Testing" bullet point above.

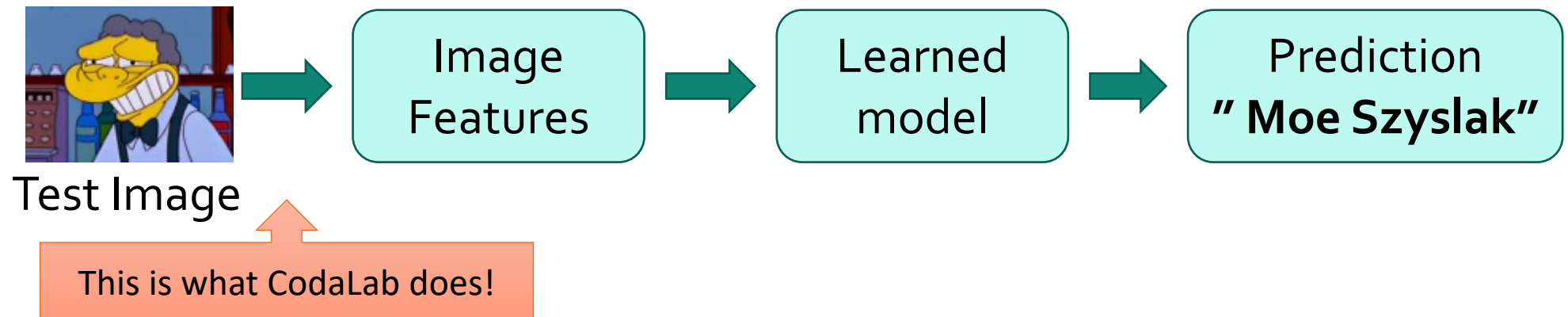
What do you have to do?

Steps

Training



Testing



The performance is evaluated using the Accuracy!

$$\text{Accuracy} = \frac{\text{\#correctly classified test images}}{\text{\#test images}}$$

Programming

Development phase (**Validation Leaderboard opens**)
March 15, 2021 to May 15, 2021



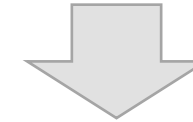
Test phase (**Testing Leaderboard opens**)
May 15, 2021 to May 22, 2021
ONLY ONE SUBMISSION IS ALLOWED!



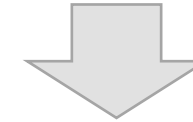
Last Shot & Contest End
May 22, 2021

Final

Semi-Finalists Announcement (**top six teams on the Testing Leaderboard**)
May 22, 2021



Report & Code Due
June 05, 2021



Winners Announcement
June 17, 2021

- **Development phase**

- 20 characters x 50 images = 1,000 test images

- **Test phase**

- 20 characters x 50 images = 1,000 test images

- Images in the test sets are collected and labeled from TV show episodes

- Although images are different in each test test, they come from the same distribution

**You never have access
to the images in the
test sets!
Only CodaLab does!**


- **All participants need to be enrolled in a course within the School of IT**
- The semi-finalists are required to:
 - Achieve at least **80%** accuracy for the test phase
 - Submit a report, which describes the solution
 - Provide a link of the Github repo of the solution
 - The submitted codes and reports may be inspected to check the validity of the solution!

Prizes and Sponsors



Funded by
Community Bank
Deakin University
Bendigo Bank





Deakin University
School of Information
Technology

Award for

1st Prize Winners of the Deakin
SIMPSONS AI Challenge 2021


Presented to

**John Doe, Dale Nixon, and
Karen Eliot**

in recognition for their excellent
achievement

XX June 2021

Funded by Community Bank at Deakin
University



Dr. Mohamed Reda Bouadjenek
Lecturer, School of Information Technology

Professor John Yearwood
Head, School of Information Technology

deakin.edu.au

Deakin University CRICOS Provider Code: 00113B

Why should you participate?



- **The school official award that will be given to you provides an invaluable recognition for your achievement**
 - An award is critical when you apply for a job or a PhD scholarship!
- The perfect place to learn best practices in AI, accrue feedback on your work, and augment your skills
- A channel for problem-solving and brainstorming
- An opportunity to push boundaries and encourage creativity
- The experience you get is invaluable in preparing you to understand what goes into finding feasible solutions for big data

- Register to the CodaLab platform, then register to the competition on CodaLab
- **You can participate individually or in a team**
 - There cannot be more than 3 students in a team
 - To find team members or join a team, you can post a message on the discussion forum
 - Once you have built your team, the team leader needs to contact me and provides:
 - Names, CodaLab usernames, the Deakin course in which they are enrolled, and the name of the team

**All you need is a Google
account to use Google Colab!**

Demo

Questions?