

Deakin **SIMPSONS** AI CHALLENGE 2021

Webinar on Tuesday, March 16th

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SCAN ME

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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 y , "prediction function" under f , and "Image feature" under x . Red arrows point from each label up to its corresponding part of the equation.

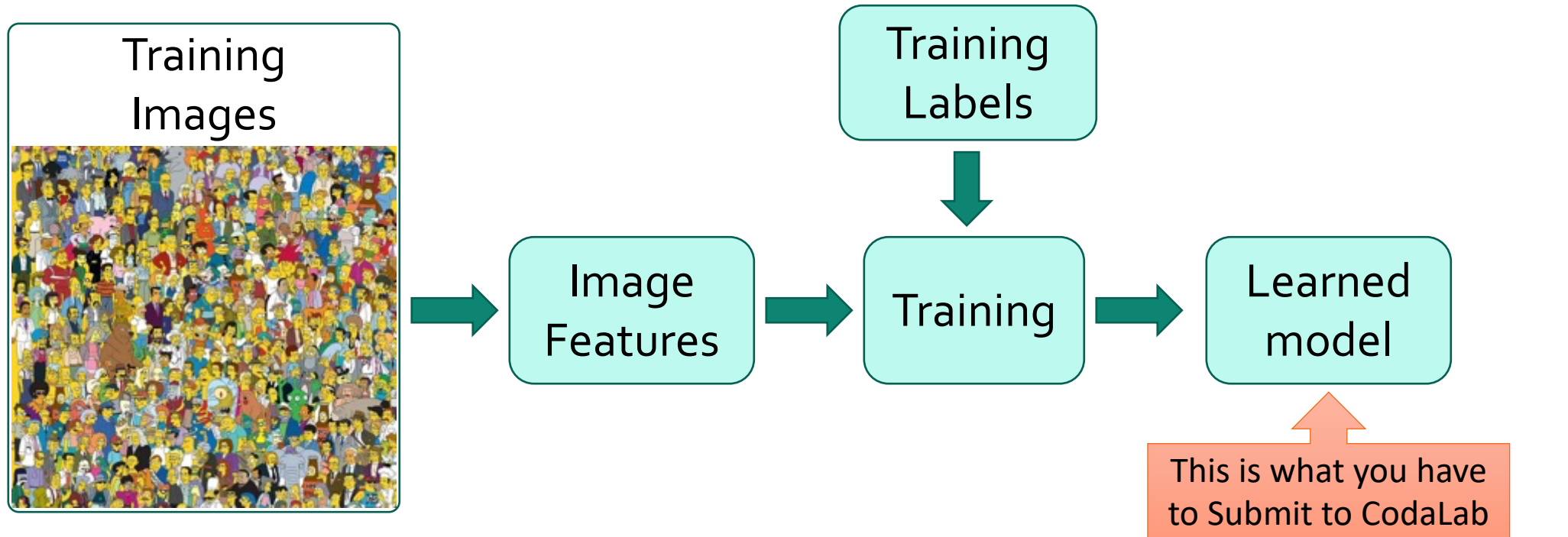
- **Training:** given a training set of labeled examples $\{(x_1, y_1), \dots, (x_N, y_N)\}$, estimate the prediction function f by minimizing the prediction error on the training set
- **Testing:** apply f to a **never seen before** test example x and output the prediction $y = f(x)$

This is what CodaLab does!

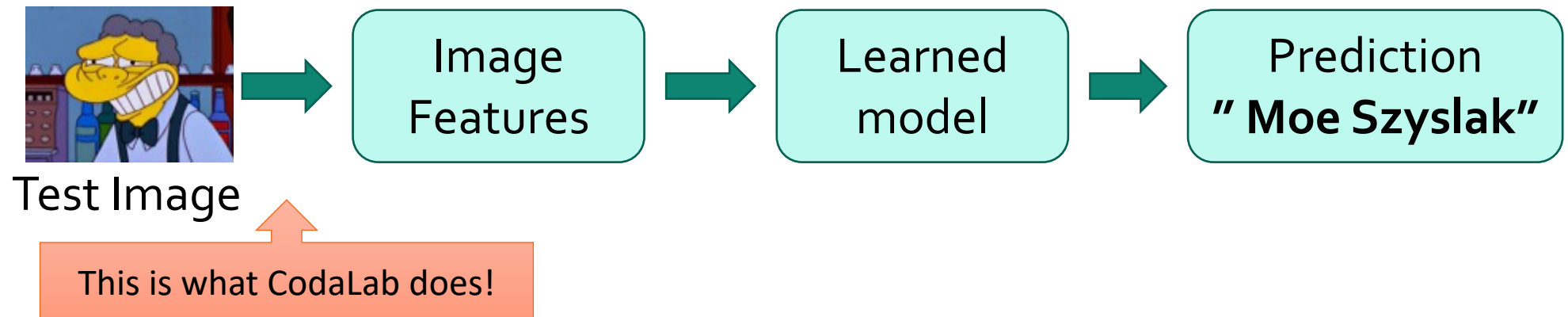
What do you have to do?

Steps

Training



Testing



The performance is evaluated using the Accuracy!

$$\text{Accuracy} = (TP + TN) / (TP + TN + FP + FN)$$

Programming phase

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



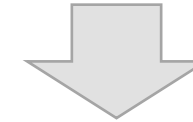
Test phase (**Testing Leaderboard opens**)
May 15, 2021 to May 22, 2021
ONLY ONE SUBMISSION IS ALLOWED!



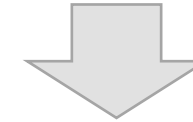
Last Shot & Contest End
May 22, 2021

Final phase

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



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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

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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 (all team members need to register to the competition)
 - To find team members, you can post a message on the discussion forum on CodaLab
 - Once you have built your team, the team leader needs to contact me and provides:
 - names of the members, 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?