

Lesson 6: Model cards and careers

Experience AI

Predicting future crime

A machine learning model has been developed that predicts in which areas crimes are most likely to be committed.

A police force would like to use this model in an application to manage where to deploy their officers.

What do the users of this model need to know to help them **evaluate** whether or not to use it?



Lesson 6: Model cards and careers

In this lesson, you will:

- Evaluate a machine learning model
- Produce a model card to explain an ML model
- Recognise the range of opportunities that exist in AI-related careers

The AI project lifecycle

Defining
the
problem

Preparing
the data

Training the
model

Testing the
model

Evaluating
the
model

Explaining
the
model

Choosing the right model for your AI application

Experience AI

Google DeepMind



[Watch the video on YouTube](#)

Evaluating an ML model

You have already started to evaluate your model by calculating accuracy.

Another factor to consider when evaluating a model is the training data:

- Was enough data used?
- What bias is in the training data?
- What other limitations are known about the model?

Model cards

Model cards are an approach for describing a machine learning model.

People who want to use a model should be given information to help them evaluate how effectively the model will work with the data they will be using.

Facial recognition model	Model card
Model description: ~~~~ ~ ~~~~~ ~~~~~	Data set: ~~~~ ~~~~~ ~ ~ ~ ~ ~~~~ ~ ~ ~
Intended use: ~ ~~~~~ ~~~~~ ~~~~~	Accuracy: ~~~~ ~~~~~ ~ ~ ~ ~
Limitations: ~~~~ ~~~~~ ~~~~~ ~ ~ ~~~~ ~~~~~ ~~~~~	

What is on a model card?

There is no agreed format for a model card.

They often include the following information:

- Model description and intended use
- Data used to train the model
- Accuracy
- Limitations and bias

Facial recognition model	Model card
Model description: ~~~~~ ~ ~~~~~ ~~~~~	Data set: ~~~~ ~~~~~ ~ ~~~~~ ~ ~~~~ ~~~~~ ~
Intended use: ~ ~~~~~ ~~~~~ ~~~~~	Accuracy: ~~~~ ~~~~~ ~~~~~ ~ ~~~~~ ~
Limitations: ~~~~ ~~~~~ ~~~~~ ~ ~ ~~~~ ~~~~~ ~~~~~	

Using a model card

A music venue that hosts concerts wants to create an application that will help them with crowd management.

They need to know how many people are gathered in certain areas to avoid overcrowding.

Help the music venue decide if the following model is suitable for their application: rpf.io/modelcard

Explore the model card.

- Will the model do what the venue needs it to?
- Are there any limitations that are relevant for the venue?

What is your recommendation?

Think, pair, share

Create your own model card



Your task is to create a simplified model card for your own ML model.

Your model card will record an evaluation of your model and help others decide if they should use it.

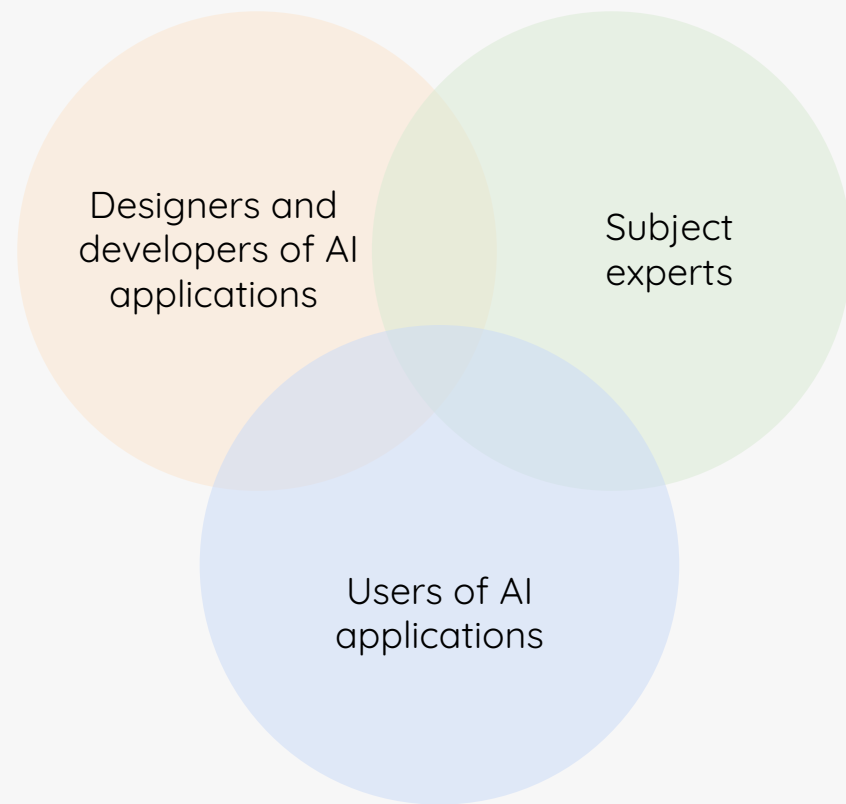
Use the template provided to create a model card for the model you worked on last lesson.

A light blue rectangular template for a model card. It features a table with two columns and four rows. The first row has a single cell spanning both columns. The subsequent three rows each have two cells. The bottom-left and bottom-right corners of the template are decorated with a pattern of small blue dots.

AI-related careers

The use of AI applications will have an impact on many different types of careers.

- Designers and developers of AI systems and machine learning models
- Experts to help train, test, and evaluate models
- Users of AI applications

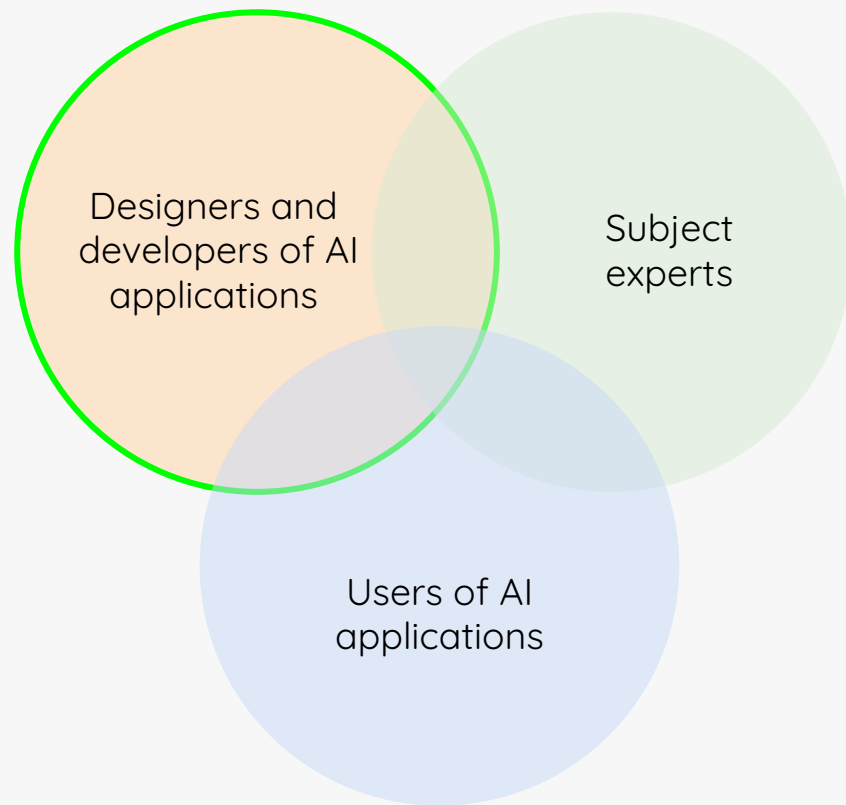


Designers and developers of AI applications

Creating machine learning models requires a team with diverse viewpoints and skill sets.

What is a career in AI actually like?

What should we be excited about for the future?



Careers in AI



[Watch the video on YouTube](#)

Careers in AI

There are many different careers that involve working with machine learning models.

They can be roughly sorted into three categories.

1. Social and ethical
2. Applications
3. Models

Careers in AI



Open your worksheet.

Match the descriptions to the three categories.

1. Social and ethical
2. Applications
3. Models

Careers in AI



Social and ethical

Examining how AI and machine learning impact society. Ensuring that the use of AI applications does not cause harm or increase inequality.

Applications

Implementing machine learning models into a larger software system. Not responsible for training.

Models

Creating machine learning models. Training and testing models. Developing different types of model to solve specific problems.



Careers in AI

On your worksheet, there are profiles of people who work at DeepMind.

Read the profiles and drag the icons into the right category based on the person's job.

Some of the jobs fit into more than one category.

1. Social and ethical
2. Applications
3. Models



Role models in AI

Pick a profile or section that resonates with you.

Which of the categories would you enjoy working in?

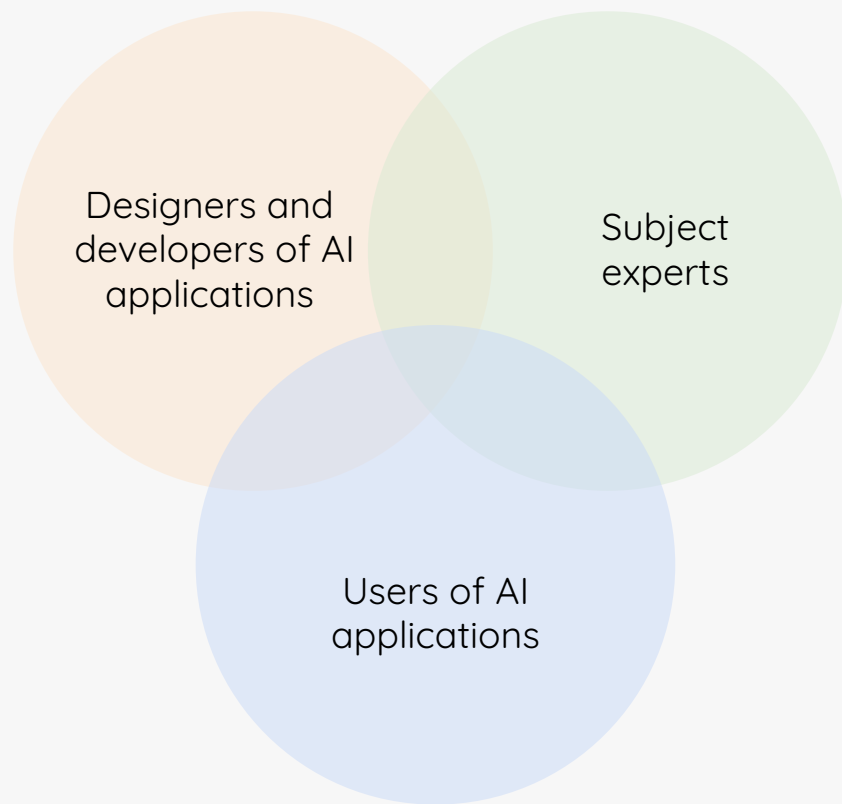
Are there any similarities between you and the people in the profiles?

1. Social and ethical
2. Applications
3. Models

AI-related careers

Beyond the careers at DeepMind, there are lots of other careers that involve the use of AI applications.

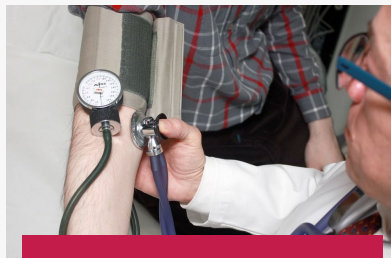
You have heard about other areas where ML models can be used throughout this unit.



AI-related careers



Artists



Doctors



Shop owners



Climate scientists



Journalists



Fashion designers

Using ML models to solve problems

Discuss with a partner:

Choose a career that **you are interested in**.

- What problem could ML models help solve?
- What kind of data would you need?
- Who would it help?



Artists



Doctors



Shop owners



Climate scientists



Journalists



Fashion designers

Congratulations!

In this unit, you...

Explored different approaches to machine learning and AI

Experienced the use of AI across a range of applications

Created your own machine learning model to solve a real-world problem

Next steps

Take your AI knowledge further by taking part in the Experience AI Challenge where you will:

Design, code, train, and test your own machine learning model that will use an online music database to create the soundtrack to your life!