How to Train Your Robot Companion
Developed by the MIT Media Lab & i2 Learning
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Day 1: What is technology?

Technology is ______________________ made by ________________
(noun) (noun)

in order to _________________________________.
(verb)

Draw me!
What do you think technology is?

Good things technology can do

Bad things technology can do

•

•

•

•
Day 1: What is AI?

AI is ______________________ made by ______________________
(noun)                                        (noun)

that ____________________________________________
(verb)

Draw me!
What do you think AI is?

<table>
<thead>
<tr>
<th>Good things AI can do</th>
<th>Bad things AI can do</th>
</tr>
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<tbody>
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</table>
# Day 1: Ethical Reasoning

## Stakeholders

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>1st Area of Interest:</th>
<th>2nd Area of Interest:</th>
<th>3rd Area of Interest:</th>
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</thead>
<tbody>
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## Outcomes

<table>
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<tr>
<th>Outcomes</th>
<th>Pros</th>
<th>Cons</th>
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</table>
Day 1: Reflection

What is one thing you learned about AI today?

What are some ways AI can be helpful?
What are some ways AI can be harmful?

What is one question you have about AI?
Day 2: PB&J Sandwich Activity

Write an “algorithm” to make a Peanut Butter and Jelly sandwich:

a) What *input data* (or ingredients!) do you need?

b) Write out the steps in your algorithm:
Day 2: Teachable Machine Activity

(a) For the dog training dataset, record the following:
   How many images are included?
   How are the images similar?
   How are the images different?

(b) For the cat training dataset, record the following:
   How many images are included?
   How are the images similar?
   How are the images different?
Once your classifier is finished, test your dataset with cards given to you containing the following image. Fill in the table on the next page about your testing dataset:

<table>
<thead>
<tr>
<th>Image</th>
<th>Classification</th>
<th>Confidence Score</th>
<th>Correct?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Cat 1" /></td>
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<tr>
<td><img src="image2.png" alt="Cat 2" /></td>
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<tr>
<td><img src="image3.png" alt="Cat 3" /></td>
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<tr>
<td><img src="image4.png" alt="Dog" /></td>
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</tbody>
</table>
Which class did your classifier work better on? (Circle one)

Cats

Dogs

Why do you think that is?

With your group, use the photos on the tables to re-curate your training dataset. Record the following:

A. For the dog training dataset, record the following:
   a. How many images are included?

   b. How are the images similar?

   c. How are the images different?
B. For the cat training dataset, record the following:
   a. How many images are included?

   b. How are the images similar?

   c. How are the images different?

Train your new classifier on your two new training datasets.

Once your classifier is finished, test your dataset with cards given to you containing the following image. Fill in the table on the next page about your testing dataset:

<table>
<thead>
<tr>
<th>Image</th>
<th>Classification</th>
<th>Confidence Score</th>
<th>Correct?</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image 1" /></td>
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<td></td>
<td></td>
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<tr>
<td><img src="image2.png" alt="Image 2" /></td>
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</tbody>
</table>
Did your new algorithm work… *(circle one)*

<table>
<thead>
<tr>
<th>Better for dogs</th>
<th>The same for both cats and dogs</th>
<th>Better for cats</th>
</tr>
</thead>
</table>

Explain:
Day 2: Reflection

What is one thing you learned about AI today?

What are some things that are important to remember when designing your AI algorithm?

What is a question you have about AI?
Day 3: Ethical Matrix

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</table>
Day 3: Ethical Matrix

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</table>
Day 3: Final Project Research

What category of AI examples did you choose?

Entertains       Goes Where Humans Can’t

Helps People     Explores the World       Other:_________

Can you draw an example of this category of AI?
Circle all of the ethical concerns that are relevant to this AI:

<table>
<thead>
<tr>
<th>Unemployment</th>
<th>Inequality</th>
<th>Humanity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artificial UNintelligence</td>
<td>Algorithmic Bias</td>
<td>Security</td>
</tr>
<tr>
<td>Unintended Consequences</td>
<td>Other: ____________</td>
<td></td>
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</tbody>
</table>

What are some ways this AI can be used?

- 
- 
- 

What are some ways this AI can be abused?

- 
- 
-
Day 3: Final Project Brainstorm

Use this worksheet to come up with as many ideas as possible for what you want to build for your final project.
Day 3: Reflection

What is one thing you learned about AI today?

How much do you agree with the following statements?

a) Technology is a good thing for everyone.

   0 . . . 5 . . . 10
   (not at all) (quite a lot)

b) AI is a technology that mostly benefits humanity.

   0 . . . 5 . . . 10
   (not at all) (quite a lot)

c) AI designers always think about stakeholders.

   0 . . . 5 . . . 10
   (not at all) (quite a lot)

d) It is difficult to build AI that reduces harm.

   0 . . . 5 . . . 10
   (not at all) (quite a lot)

What is a question you have about AI?
Day 4: Final Project Planning

- What does it do?
  - Entertain
  - Go places people can’t explore by itself
  - Help people

- What are some ethical concerns?
  - Security
  - Consequences
  - Fairness
  - Bias

- How does it look?
  - Vehicle
  - Animal
  - Person
  - Creature

- What kind of AI does it use?
  - Image recognition
  - Conversation
  - Decision trees

Topic:
Day 4: Final Project Peer Review

Review the project of another group and give them feedback using this form. Remember to be constructive!

Things I like about the project:

Things I think could be exciting to add or change:

Things I am not sure about:
Day 4: Reflection

What is something you learned about AI? What is something you have a question about?

What is your idea for your final project? Who are the stakeholders for your final project?

How did you decide which stakeholders to design for in your final project?
Additional Activity: Build Your Own Decision Tree

Topic: ________________