



AI & Machine Learning

Lesson 19

Troubleshooting Models

Warm Up



Writing Prompt:

What are some reasons Zoey might not be able to train an accurate model?

No matter what I try, I can't get an accurate model in AI Lab! The highest I've gotten is 60%!



Rhetorical Question of the Day

What are strategies to make sure our data generates an accurate model?

Activity





Code.org

Navigate to **Code.org**
Lesson 19 Level 1 -
Club Datasets

Prepare

You should have:

Activity Guide - Troubleshooting Models (on Schoology
Code.org

Activity Guide - Troubleshooting Models

Overview

Our team is having some issues with their data and models. In AI Lab, investigate each person's data and try to determine what issues they are having.

 Zoey "I can't seem to train an accurate model no matter how hard I try!"	 Nico "I can train an accurate model, but when I have other people test it they say it doesn't work and I'm not sure why!"	 Isaac "I don't understand why I keep getting low accuracy even when I use a lot of features!"	 Kim "I can train an accurate model, but when I have other people test it they say it isn't correct and I'm not sure why!"
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Zoey's Data

What do you think is the issue with Zoey's data? _____

What do you think Zoey can do to fix it, or what do you think she could have done differently earlier in her project to avoid it? _____

Nico's Data





What do you think is the issue with Nico's data? _____

What do you think Nico can do to fix it, or what do you think he could have done differently earlier in his project to avoid it? _____



Overview

Our team is having some issues with their data and models. In AI Lab, investigate each person’s data and try to determine what issues they are having.

			
<p>Zoey “I can’t seem to train an accurate model no matter how hard I try!”</p>	<p>Nico “I can train an accurate model, but when I have other people test it they say it doesn’t work and I’m not sure why!”</p>	<p>Isaac “I don’t understand why I keep getting low accuracy, even when I use a lot of features”</p>	<p>Kim “I can train an accurate model, but when I have other people test it they say it isn’t correct and I’m not sure why!”</p>

Do This

Investigate each person's data in AI Lab and record your findings on your activity guide.

Activity Guide - Troubleshooting Models

Overview

Our team is having some issues with their data and models. In AI Lab, investigate each person's data and try to determine what issues they are having.

 Zoey "I can't seem to train an accurate model no matter how hard I try!"	 Nico "I can train an accurate model, but when I have other people test it they say it doesn't work and I'm not sure why!"	 Isaac "I don't understand why I keep getting low accuracy even when I use a lot of features!"	 Kim "I can train an accurate model, but when I have other people test it they say it isn't correct and I'm not sure why!"
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Zoey's Data

What do you think is the issue with Zoey's data? _____

What do you think Zoey can do to fix it, or what do you think she could have done differently earlier in her project to avoid it? _____

Nico's Data

What do you think is the issue with Nico's data? _____

What do you think Nico can do to fix it, or what do you think he could have done differently earlier in his project to avoid it? _____

Share Out

What was an issue with Zoey's Data?

How can she fix it, or what could she have done differently to avoid it?




Zoey

"I can't seem to train an accurate model no matter how hard I try!"

Share Out

What was an issue with Nico's Data?

How can he fix it, or what could he have done differently to avoid it?




Nico
“I can train an accurate model, but when I have other people test it they say it doesn't work and I'm not sure why!”

Share Out

What was an issue with Isaac's Data?


How can he fix it, or what could he have done differently to avoid it?


<p>Isaac</p> <p>"I don't understand why I keep getting low accuracy, even when I use a lot of features"</p>

Share Out

What was an issue with Kim's Data?

How can she fix it, or what could she have done differently to avoid it?


<p>Kim</p> <p>"I can train an accurate model, but when I have other people test it they say it isn't correct and I'm not sure why!"</p>

Discuss

Hawa hasn't started collecting data yet.

What are three strategies you would offer her so she doesn't make some of the mistakes as her peers?



Hawa

"I was absent yesterday,
so I haven't started
collecting data yet!"

Writing Prompt:

Isaac is worried that he doesn't have time to make a whole new survey and collect data.

What are some other options so he can still make an app to help with loneliness and isolation?

I really want to make an app, but I don't think I have enough time!



Decide	<ul style="list-style-type: none">Title: Should you reach out and say hi? This app helps you decide whether or not you should reach out and say hi to someone if they look isolated. It's meant for someone who sees someone else being alone
Recommend	<ul style="list-style-type: none">Title: Club recommender. This app asks what you're interested in, then recommends a club to join as a way to make new friends. It's meant for someone who feels isolated and wants to make new friends.Title: Icebreaker Recommender. This app asks questions about a situation, then recommends an icebreaker question to ask a new group of people. It's meant for someone who wants to get to know new people in a group.
Predict	<ul style="list-style-type: none">Title: Loneliness predictor. This app has you answer questions about yourself, then provides a rating on an "isolation scale" and provides recommendations for how to become less isolated if it's over a certain amount. This is for someone who wants to see how isolated they are.

Aha! Maybe I can switch to one of the other apps we brainstormed!





Code.org

Navigate to
Lesson 19 Level 2 -
Alternative Datasets

Do This

Isaac found another dataset of student surveys that he thinks he can use to create the Loneliness Score app from his brainstorm.

Choose one of the datasets to investigate and see if you can create an accurate model that could be used to create a Loneliness Score app

Wrap Up





Writing Prompt:

If Isaac were to still use his data to create an app or use this example dataset, what do you think he should put in the Intended Uses section? What should go in the Limitations section?



Question of the Day

What are strategies to make sure our data generates an accurate model?