

Disaster Risk Monitoring Using Satellite Imagery

Interactive Content

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Multiple Choice Assessment

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Appendix

Feedback

1/1 point (graded)

Which of the following is a Computer Vision task for drawing insights from videos?

- ☐ Classification to determine which objects are in an image.
- ☐ Object Detection combines classification and localization to determine what and where objects are in an image.
- ☐ Segmentation to provide pixel-wise masks generated for each object in the image.
- ☒ All of the above.



Submit

Q2

1/1 point (graded)

What kind of data do the Sentinel-1 satellites collect? (Choose all that apply)

- ☐ High resolution RGB images.
- ☒ C-band synthetic aperture radar data.
- ☒ Reliable data regardless of weather, light, or cloud condition.
- ☒ Signals from Horizontal (H) and Vertical (V) dual polarimetric channels.



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1/1 point (graded)

Please choose the correct machine learning workflow.

☒ Prepare Data -> Train -> Evaluate -> Optimize -> Evaluate -> Export -> Deploy

☐ Prepare Data -> Optimize -> Train -> Export -> Deploy -> Evaluate

☐ Prepare Data -> Train -> Optimize -> Export -> Deploy

☐ Prepare Data -> Train -> Evaluate -> Export -> Deploy -> Optimize



Submit

Q4

1/1 point (graded)

Which of the following is true about the TAO Toolkit? (Choose all that apply)

☒ A low-coding, AI training toolkit that makes it easy to start building custom AI models.

☒ Uses transfer learning to reduce cost associated with building AI models.

☒ Offers purpose-built pretrained models that are production ready.

☒ Utilizes a CLI to perform tasks that are configured with spec files.



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Q5

1/1 point (graded)

Which of the following is false about transfer learning?

- ☐ It's the process of transferring learned features from one application to another.
- ☐ Reduces data scarcity issues and time to build a model.
- ☒ Models trained from transfer learning are not as accurate as training from scratch.
- ☐ It leverages the feature extraction layers from a pretrained model.



Submit

Q6

1/1 point (graded)

Which of the following is false about data augmentation?

- ☐ Data augmentation artificially increases the size of training data to achieve accurate results.
- ☐ Data augmentation includes geometric deformation, color transforms, and noise addition.
- ☐ Data augmentation help produce models that are more robust in their predictions and less prone to overfitting.
- ☒ Data augmentation improves model training time by reducing the number of samples required for training.



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Q7

1/1 point (graded)

What is the role of NGC? (Choose all that apply)

- ☒ It is a catalog of GPU-optimized software for AI practitioners to develop their AI solutions.
- ☒ It provides access to various AI services for model training, deployment, and monitoring.
- ☒ It provides a private registry for securely accessing and managing proprietary AI software.
- ☐ It forces developers to open-source their AI solutions.



Submit

Q8

1/1 point (graded)

Why should the data set be split into training, validation, and testing sets for supervised machine learning?

- ☐ It is better to split the data set into subset if it is too large.
- ☒ To prevent the model from overfitting and to accurately evaluate the model.
- ☐ We put the positive classes into the training set so we can build a model that can label negative classes in the test set.
- ☐ We put outlier data in the test set to see how the model will perform on them.



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1/1 point (graded)

What are the key factors affecting model selection? (Choose all that applies)

☒ Model accuracy.

☒ Inference throughput.

☒ Inference latency.

☒ Computational cost associated with inference.



Submit

Q10

1/1 point (graded)

How does deep-learning based image segmentation for flood mapping enable disaster management? (Choose all that apply)

☒ Quickly generate alerts for affected populations.

☒ Perform accurate impact analysis and effective mitigation strategies.

☒ Monitor and study the evolution of disaster events over time.

☒ Assist with rapid response and recovery planning.

