# Improving Deep Neural Networks

**Video 8:** Model Saving using PyTorch & Hands-On

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**Recap:** Techniques to improve performance

**Up Next:** Model Saving & Deployment

# Model Saving in PyTorch

Model saving sometimes takes weeks!!

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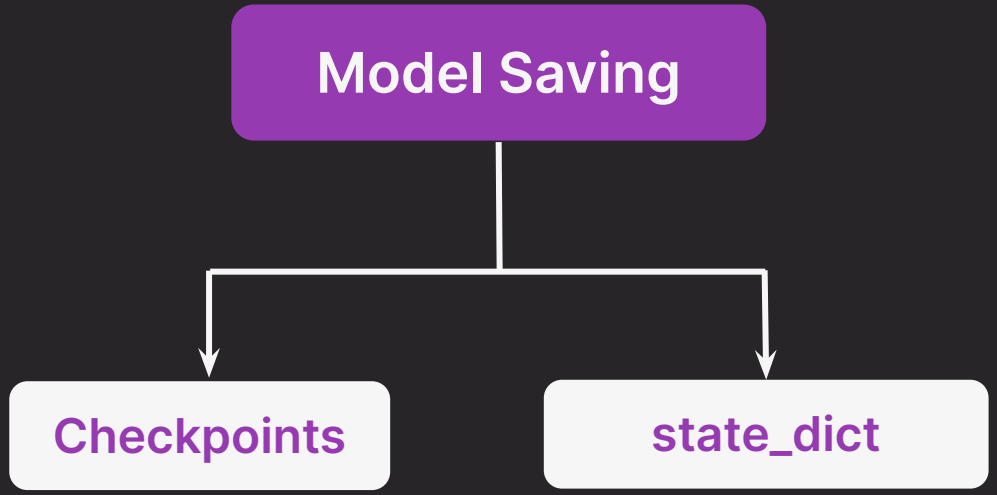
# Model Saving in PyTorch



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# Model Saving in PyTorch

## 1) Using Checkpoints

- Captures intermediates states during training
- **Components:** Parameters, No. of epochs, and optimizer parameters
- Facilitates continuous training from the specific epochs

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**torch.save()**

Ta save checkpoints

**load_ckp()**

To load checkpoints

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# Model Saving in PyTorch

## 2) Using state_dict

- Concise representation of the model parameters
- **Components:** Layer weights and biases, and learnable parameters

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# Choice of Model Saving

## Factors to be considered:

- Complexity of the model
- Requirements for training resumption
- Need for Additional training metadata
- Deployment environment

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# Model Deployment in PyTorch

## Tools to streamline model deployment:

- Torchserve
- **Gradio**
- Streamlit

# Gradio

## Key Features:

- Demo applications shared via URL
- **Pre-built input components:** Text boxes, sliders and image uploaders

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**Up-Next:** Model Saving and Deployment Hands-On