
DEEP DIVE INTO AI INNOVATIONS

with .NET 9 and GitHub Models

Mert Yeter

Dual Microsoft MVP (AI & Azure)



AI Fundamentals in .NET

.NET Application

ML.NET

Semantic Kernel

AI SDKs and Frameworks

AI SDKs

Vector Store
SDKs

ONNX Runtime

TorchSharp

LightGBM

DataFrame

SciSharp

Tokenizers

Tensors

AI / Vector Data
Abstractions

New in .NET 9

Tokenizers

- Tiktoken
 - GPT (3,3.5,4,4o,o1)
 - Llama 3
- SentencePiece
 - Llama 2
 - Mistral
- Codegen
 - Phi 2
 - Codegen
- WordPiece
 - BERT-based models

TensorPrimitives

- Nearly 200 overloads for mathematical operations
- SIMD-optimized for better performance.
- Generic overloads

Tensor<T> (Preview)

- Built on top of TensorPrimitives
- Seamless interop between AI libraries
- Easy and efficient data manipulation of multi-dimensional data


```
for object to mirror...
mirror_mod.mirror_object = object

operation == "MIRROR_X":
    mirror_mod.use_x = True
    mirror_mod.use_y = False
    mirror_mod.use_z = False
operation == "MIRROR_Y":
    mirror_mod.use_x = False
    mirror_mod.use_y = True
    mirror_mod.use_z = False
operation == "MIRROR_Z":
    mirror_mod.use_x = False
    mirror_mod.use_y = False
    mirror_mod.use_z = True

#selection at the end -add
mirror_ob.select= 1
modifier_ob.select=1
context.scene.objects.active = mirror_ob
print("Selected" + str(modifier_ob.name))
mirror_ob.select = 0
# = bpy.context.selected_objects[0]
data.objects[one.name].select = 1

print("please select exactly one object")

-- OPERATOR CLASSES --
```

DEMO

```
types.Operator):
    """X mirror to the selected object.mirror_mirror_x"""
    name = "Mirror X"
```