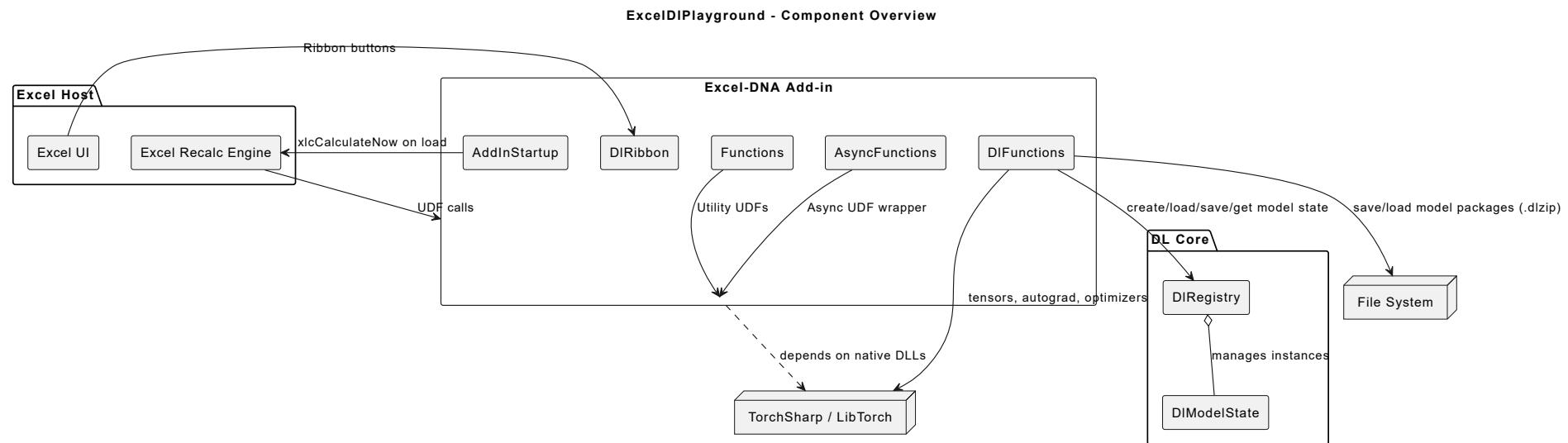


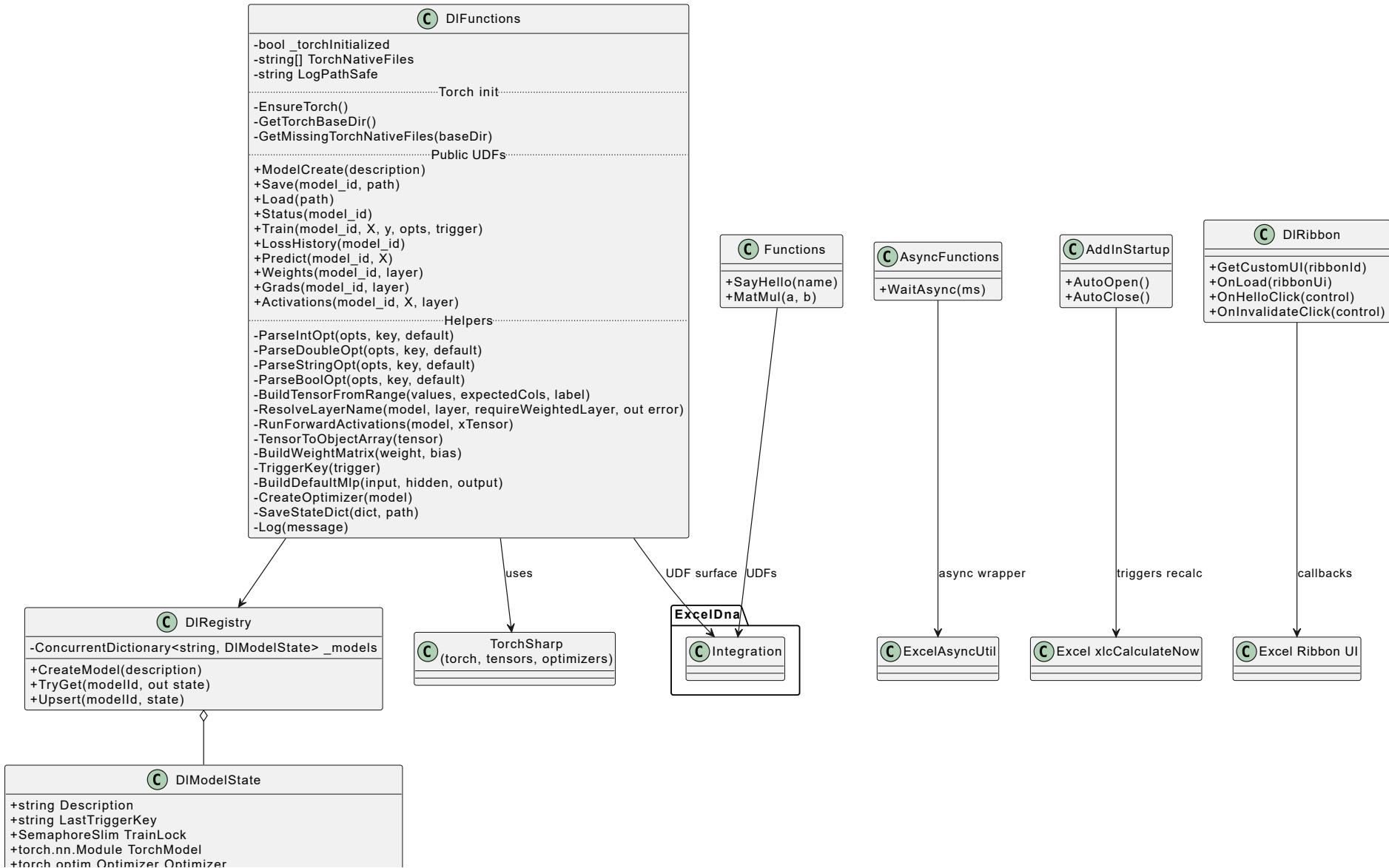
UML Overview

This document captures the core architecture of `ExcelDIPlayground` using PlantUML. The project is a .NET Framework 4.8 Excel-DNA add-in that hosts TorchSharp-based deep learning helpers exposed as Excel UDFs.

Component Diagram



Class Diagram (Key Types)



```
+torch.nn.Module LossFn
+Dictionary<string, LayerTensorSnapshot> WeightSnapshot
+Dictionary<string, LayerTensorSnapshot> GradSnapshot
+Dictionary<string, Tensor> ActivationSnapshot
+string OptimizerName
+double LearningRate
+int InputDim
+int HiddenDim
+int OutputDim
+bool IsTraining
+long TrainingVersion
+int LastEpoch
+double LastLoss
+List<(int epoch, double loss)> LossHistory
+UpdateWeightSnapshot()
+UpdateGradSnapshot()
+UpdateActivationSnapshot(activations)
```



C LayerTensorSnapshot

```
+Tensor Weight
+Tensor Bias
+Dispose()
```

Sequence (Training happy path)

