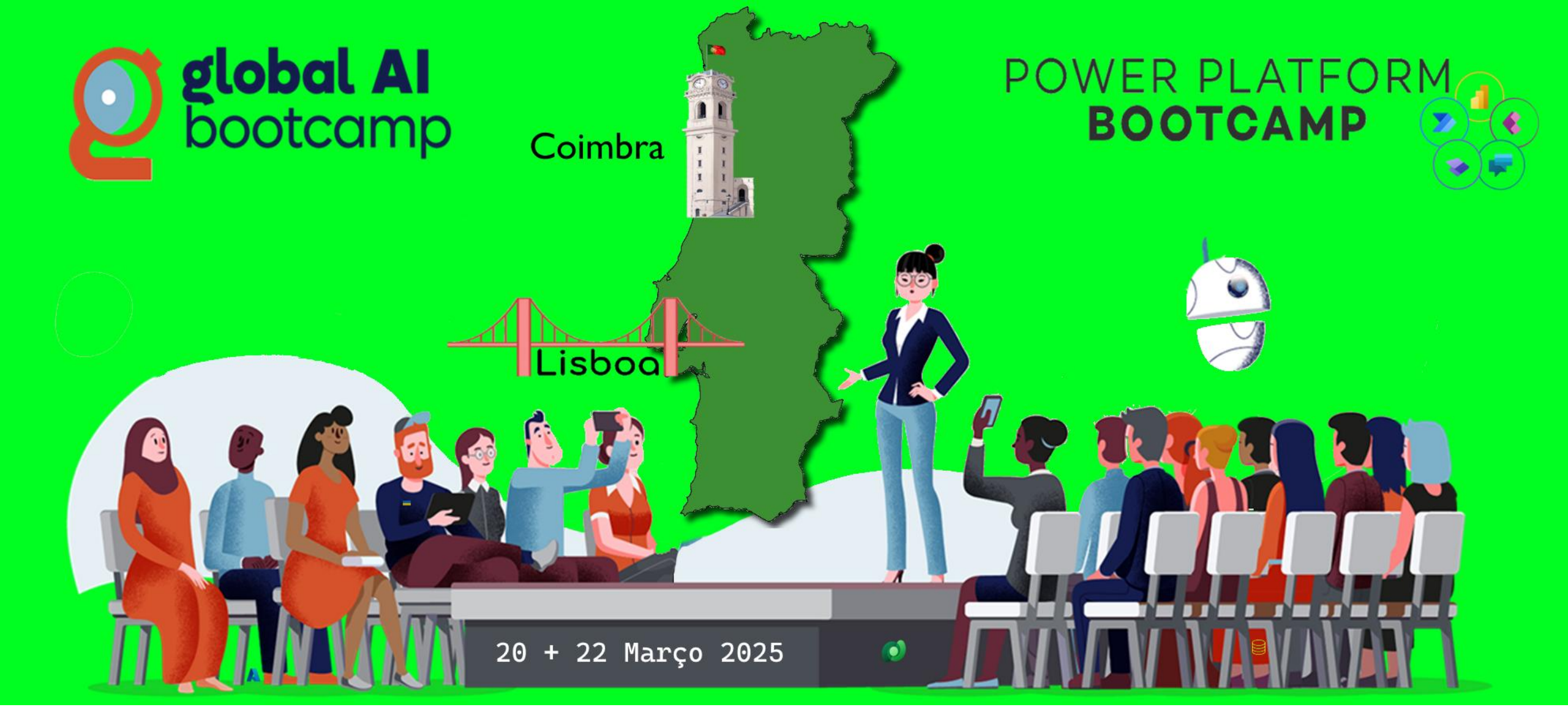

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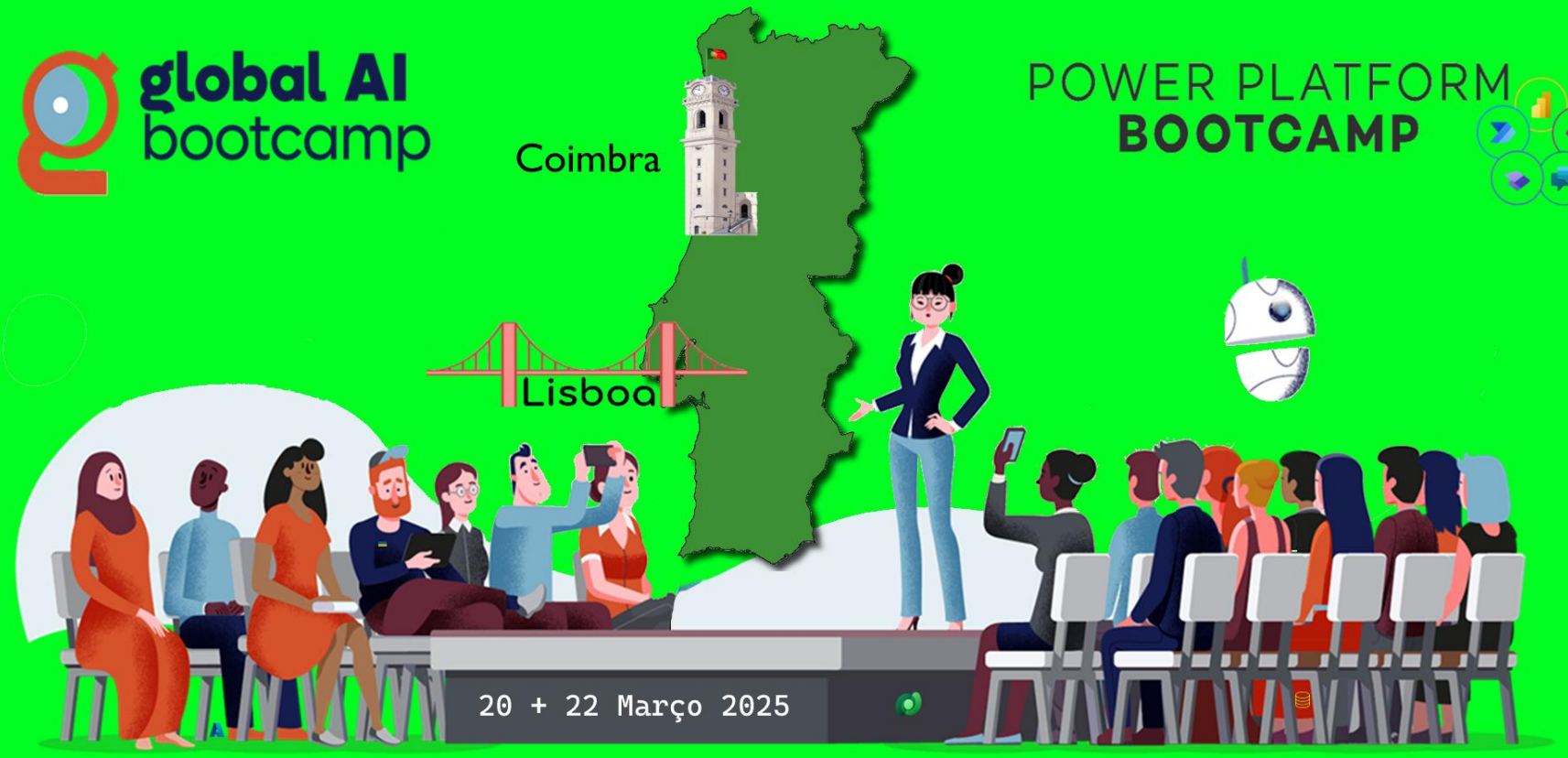

Microsoft.Extensions.AI: an API to rule them all!!!

Massimo Bonanni
Senior Technical Trainer
Microsoft

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What is Microsoft.Extensions.* ?

A modern framework **should** provide the fundamental building blocks for application development.

A modern framework **should** allow you to use your desired implementation instead of the provided implementation.

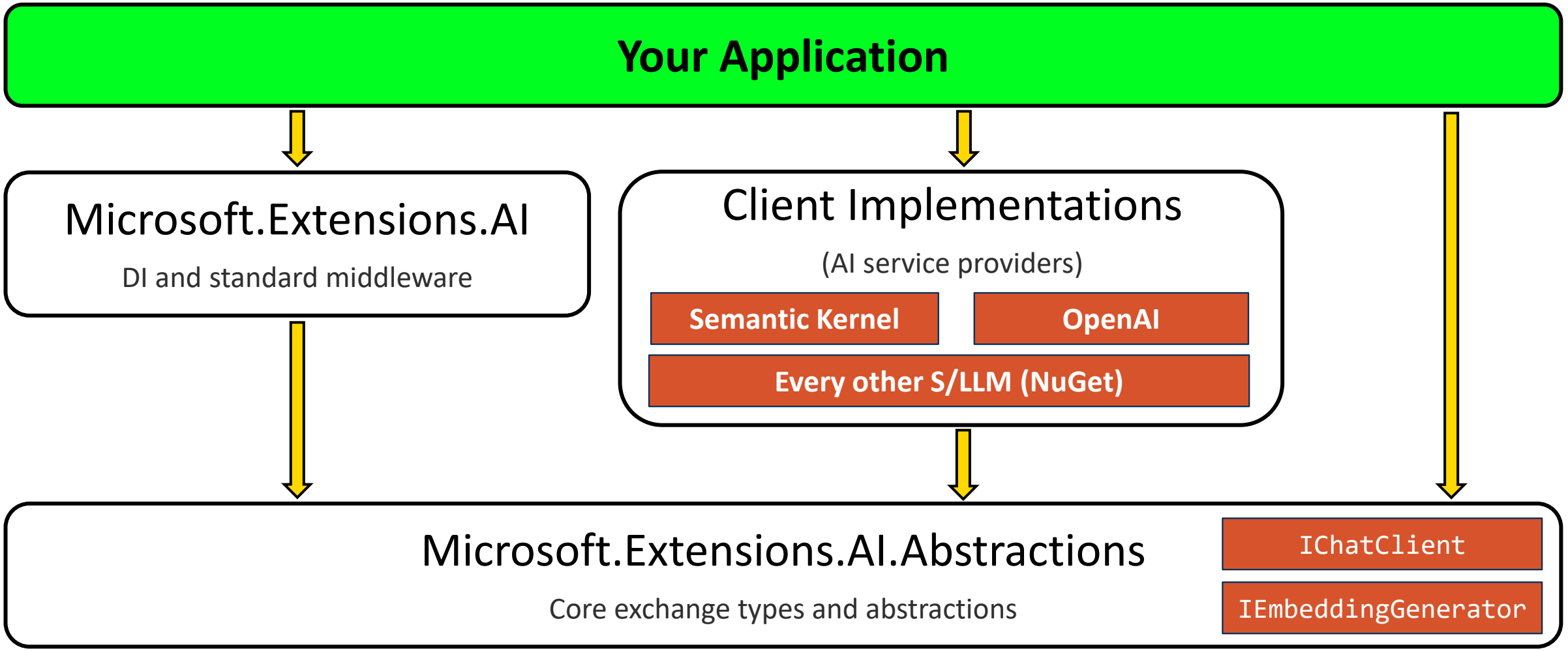
Microsoft.Extensions.Logging
→ `ILogger`

Microsoft.Extensions.Caching.*
→ `IMemoryCache, IDistributedCache, …`

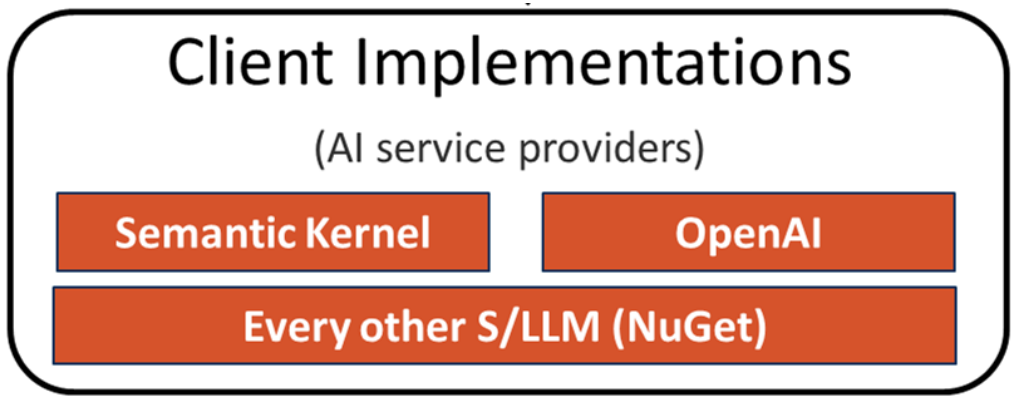
Microsoft.Extensions.DependencyInjection
→ `IServiceCollection`

Microsoft.Extensions.AI
→ `IChatClient,`
`IEmbeddingGenerator`

Microsoft.Extensions.AI architecture



Client implementations



Azure AI Inference (GitHub Models)

`Microsoft.Extensions.AI.AzureAIInference`

Azure OpenAI / OpenAI

`Microsoft.Extensions.AI.OpenAI`

Ollama

`Microsoft.Extensions.AI.Ollama`

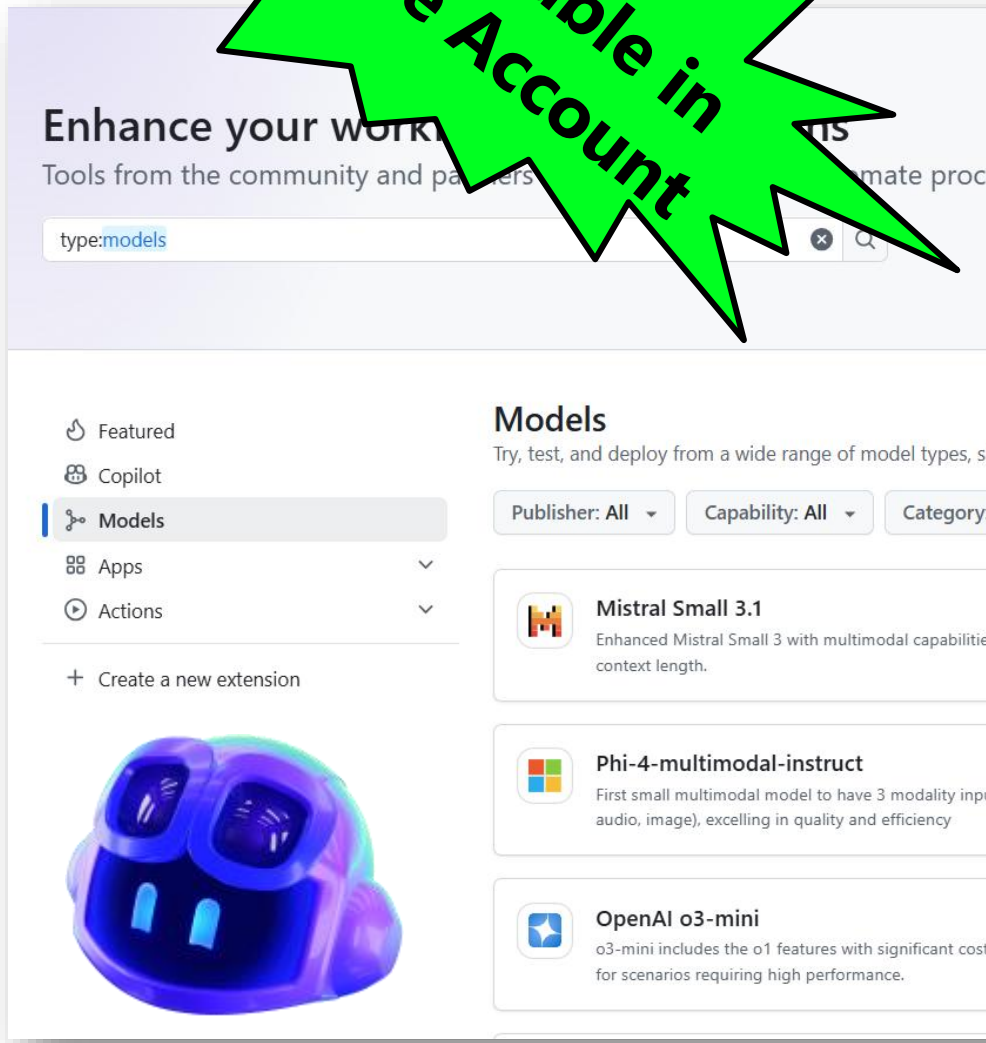
Demo

Embedding
Semantic Search
Dependency Injection
Middleware
Functions

GitHub Models: Enhancing AI Integration

Available in Free Account

- Experiment with AI models for free using the **Model Playground**.
- Compare responses from different models simultaneously.
- Adjust parameters and test prompts to refine AI behavior.
- Utilize APIs to integrate AI models into applications.



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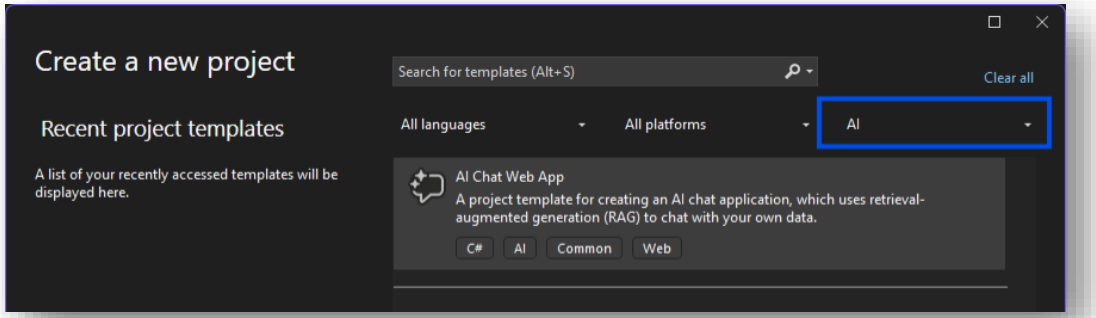
.NET AI Template Now Available in Preview

- ✓ The **.NET AI Chat template** is designed to help you quickly build an AI-powered chat application to start chatting with custom data.
- ✓ This initial release focuses on a Blazor-based web app, built using the **Microsoft.Extensions.AI** and **Microsoft.Extensions.VectorData** abstractions.
- ✓ The template uses the **Retrieval Augmented Generation** (RAG) pattern commonly used for chat applications.



Start building with Microsoft.Extensions.AI

Library Developers

If you own libraries that provide clients for AI services, consider implementing the interfaces in your libraries.

Service Consumers
Application Developers

Use the abstractions instead of hardcoding to a specific AI service.
This enables portability across models and services, facilitates testing and mocking, leverages middleware provided by the ecosystem, and maintains a consistent API throughout your app.

Ecosystem Contributors

Contribute to the ecosystem writing custom middleware components or clients.

Any Questions?

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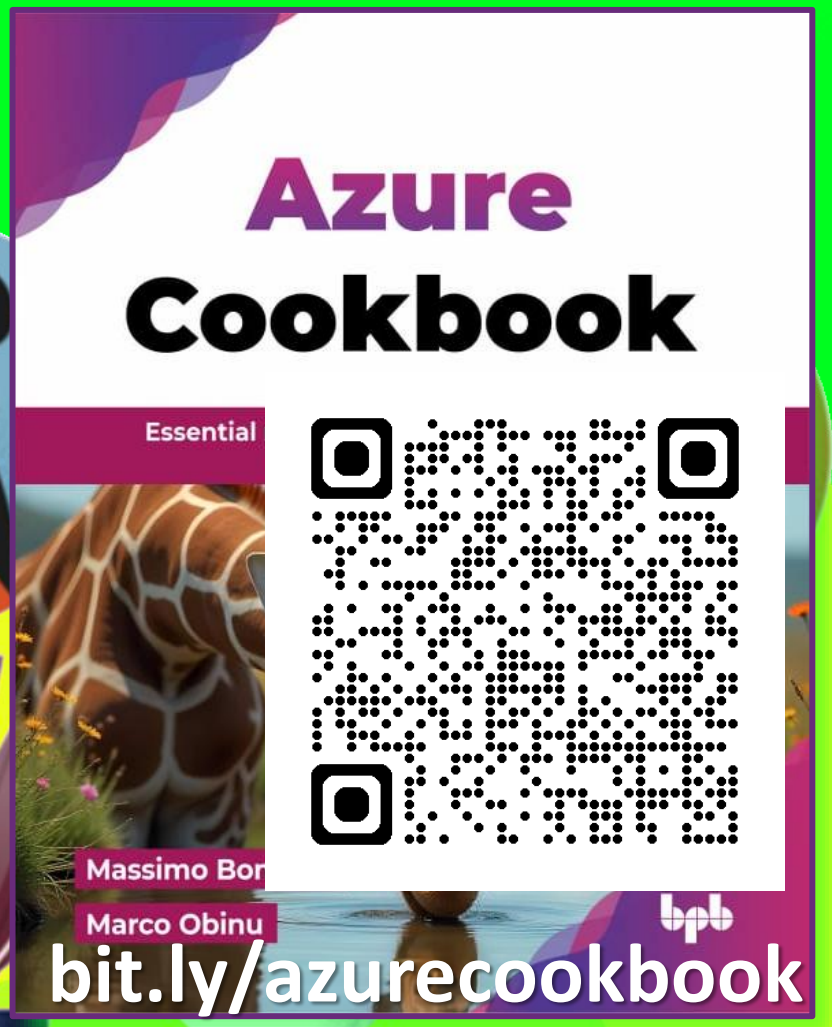

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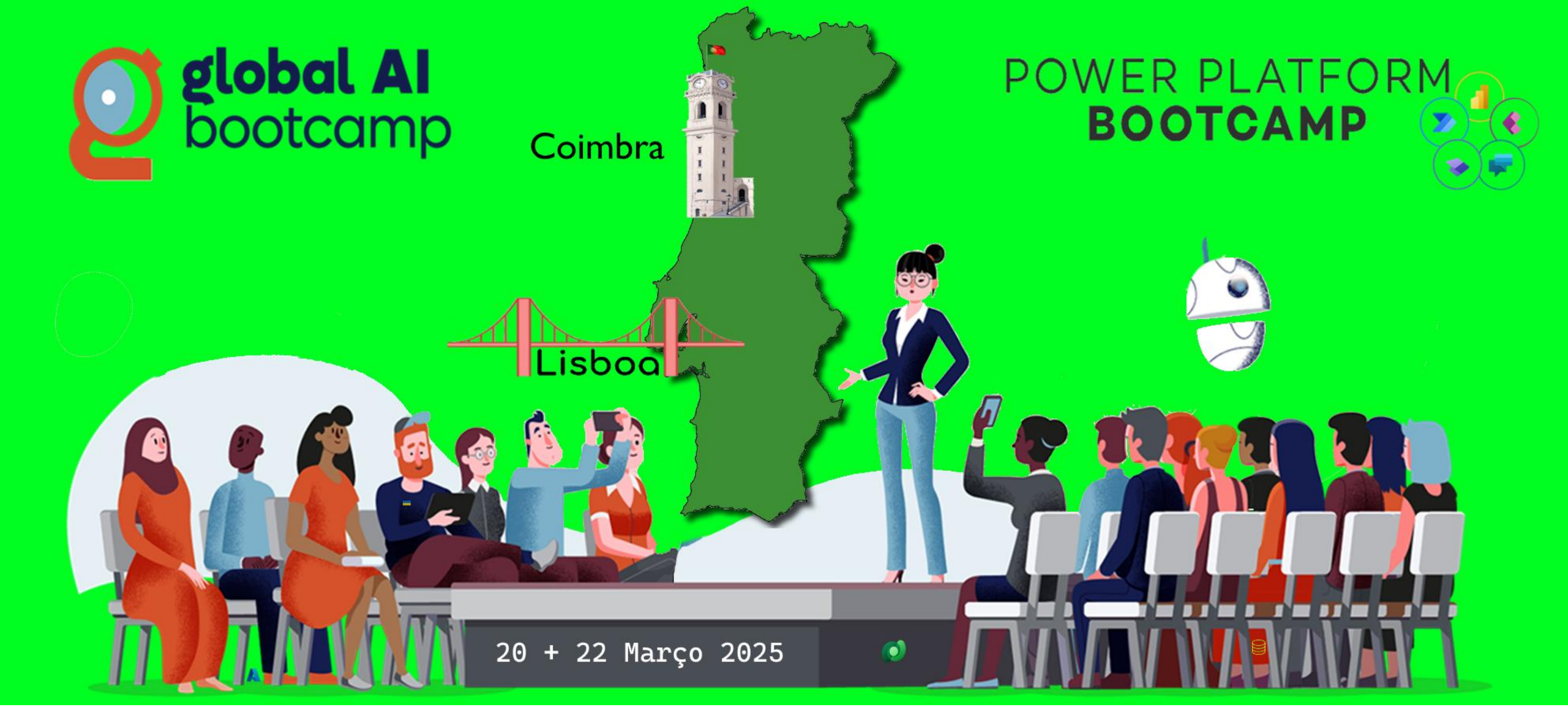

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