

开始使用solidworks with ai

环境配置

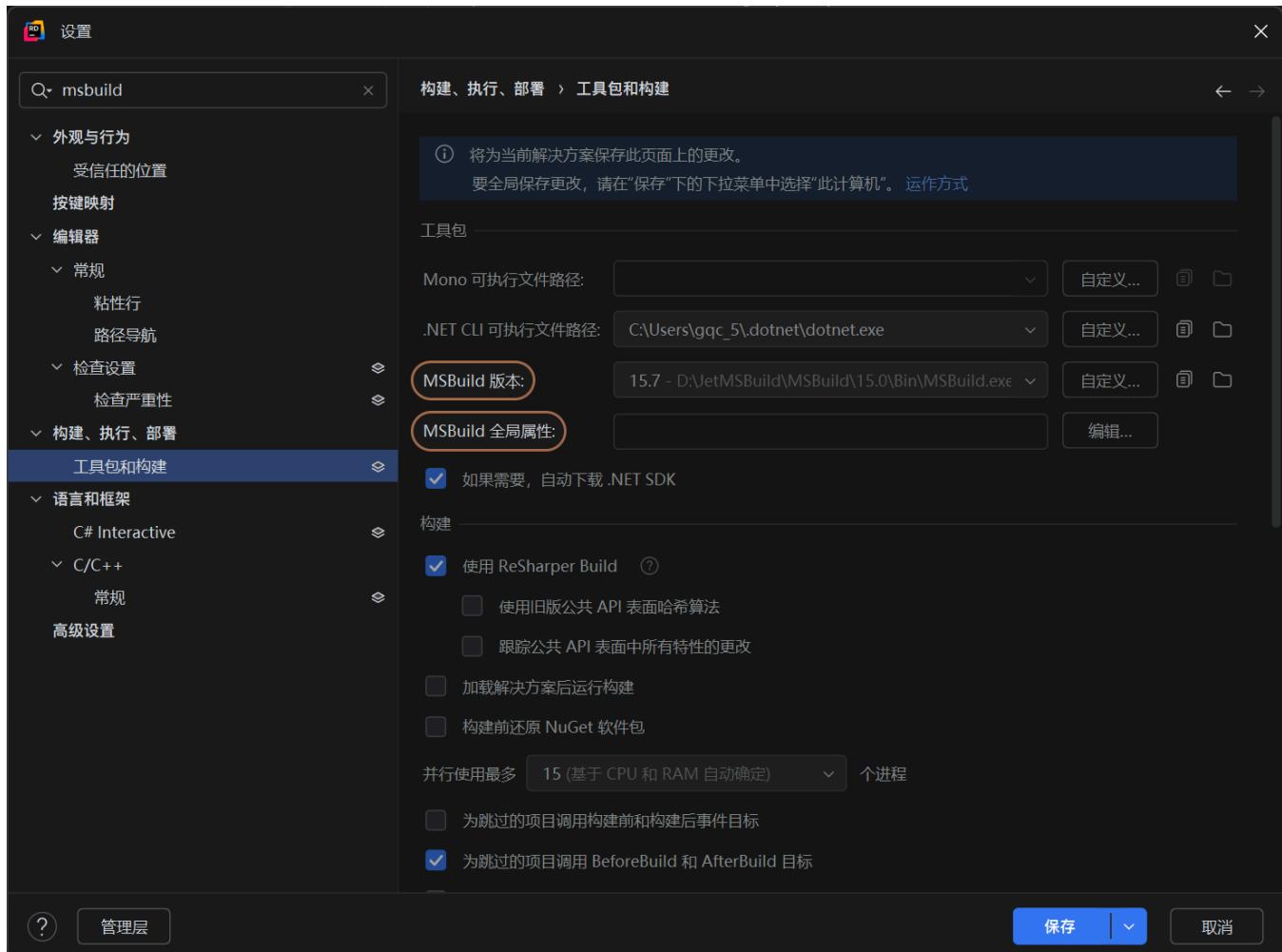
下载<https://download.microsoft.com/download/6/4/2/642ec242-448b-49a1-8371-5d9c202eaa46/NDP48-DevPack-ENU.exe> (安装.NET framework 4.8 developer pack)。

推荐使用 JetBrains Rider 作为IDE。

下载Rider (非商用免费) <https://www.jetbrains.com.cn/rider/download/?section=windows>。

下载JetBrains MSBuild 可再发行组件包 <https://download.jetbrains.com/resharper/JetMSBuild.zip?gl=1>。

在rider的设置>构建，执行，部署>工具包和构建中将MSBuild版本路径替换为你下载的那个。



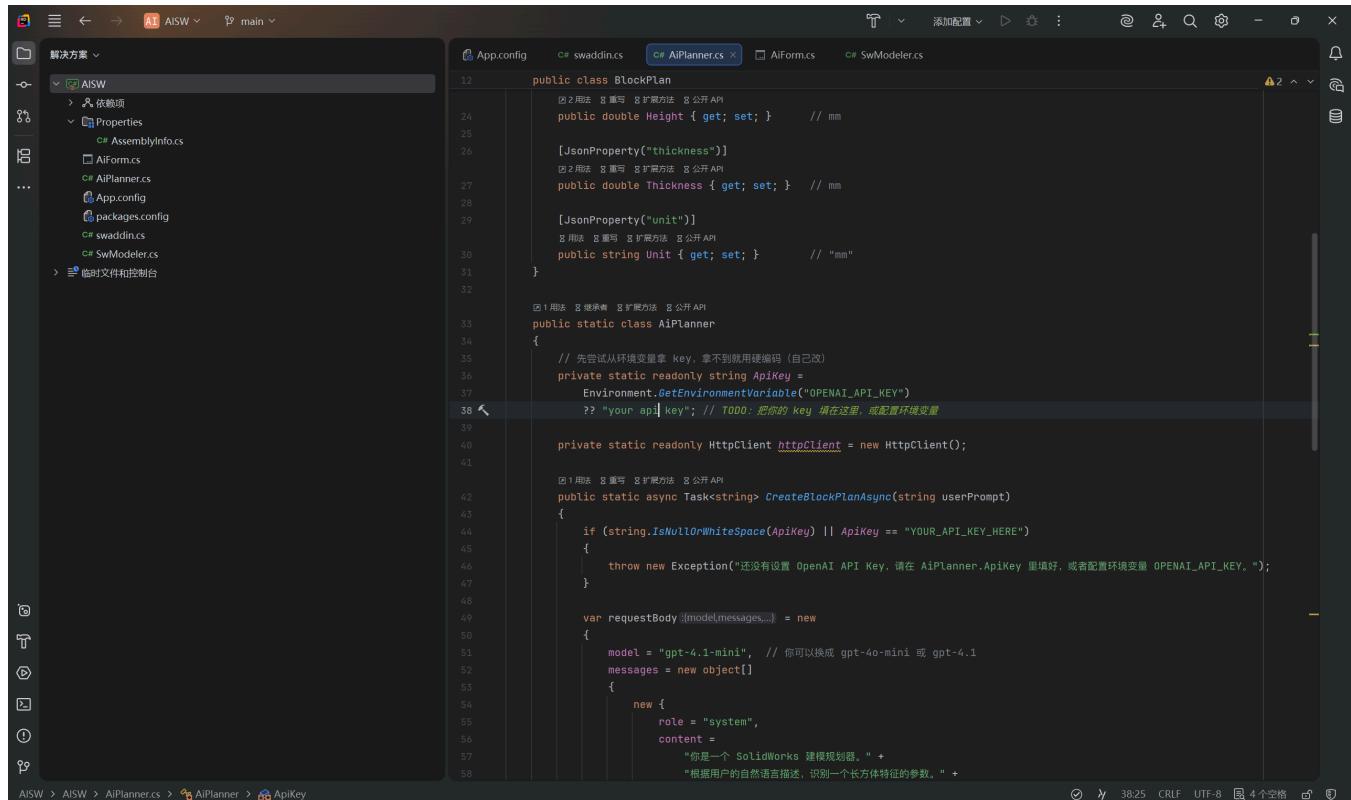
接下来在Rider中打开此项目。

若有关于框架的报错，将.NET framework替换为4.8即可，选择你刚刚的安装路径。

AI与插件配置

打开<https://platform.openai.com/api-keys>，在manage选项卡中找到API keys，创建你的api-key并复制。

在AiPlanner.cs中第38行找到“your api key”，将引号里的内容替换为你刚刚复制的api key。



```
public class BlockPlan
{
    public double Height { get; set; } // mm

    [JsonProperty("thickness")]
    public double Thickness { get; set; } // mm

    [JsonProperty("unit")]
    public string Unit { get; set; } // "mm"
}

public static class AiPlanner
{
    // 先尝试从环境变量拿 key, 拿不到就用硬编码 (自己改)
    private static readonly string ApiKey =
        Environment.GetEnvironmentVariable("OPENAI_API_KEY")
        ?? "your apiKey"; // TODO: 把你的 key 填在这里, 或配置环境变量

    private static readonly HttpClient httpClient = new HttpClient();

    public static async Task<string> CreateBlockPlanAsync(string userPrompt)
    {
        if (string.IsNullOrWhiteSpace(ApiKey) || ApiKey == "YOUR_API_KEY_HERE")
        {
            throw new Exception("还没有设置 OpenAI API Key, 请在 AiPlanner.ApiKey 里填好, 或者配置环境变量 OPENAI_API_KEY。");
        }

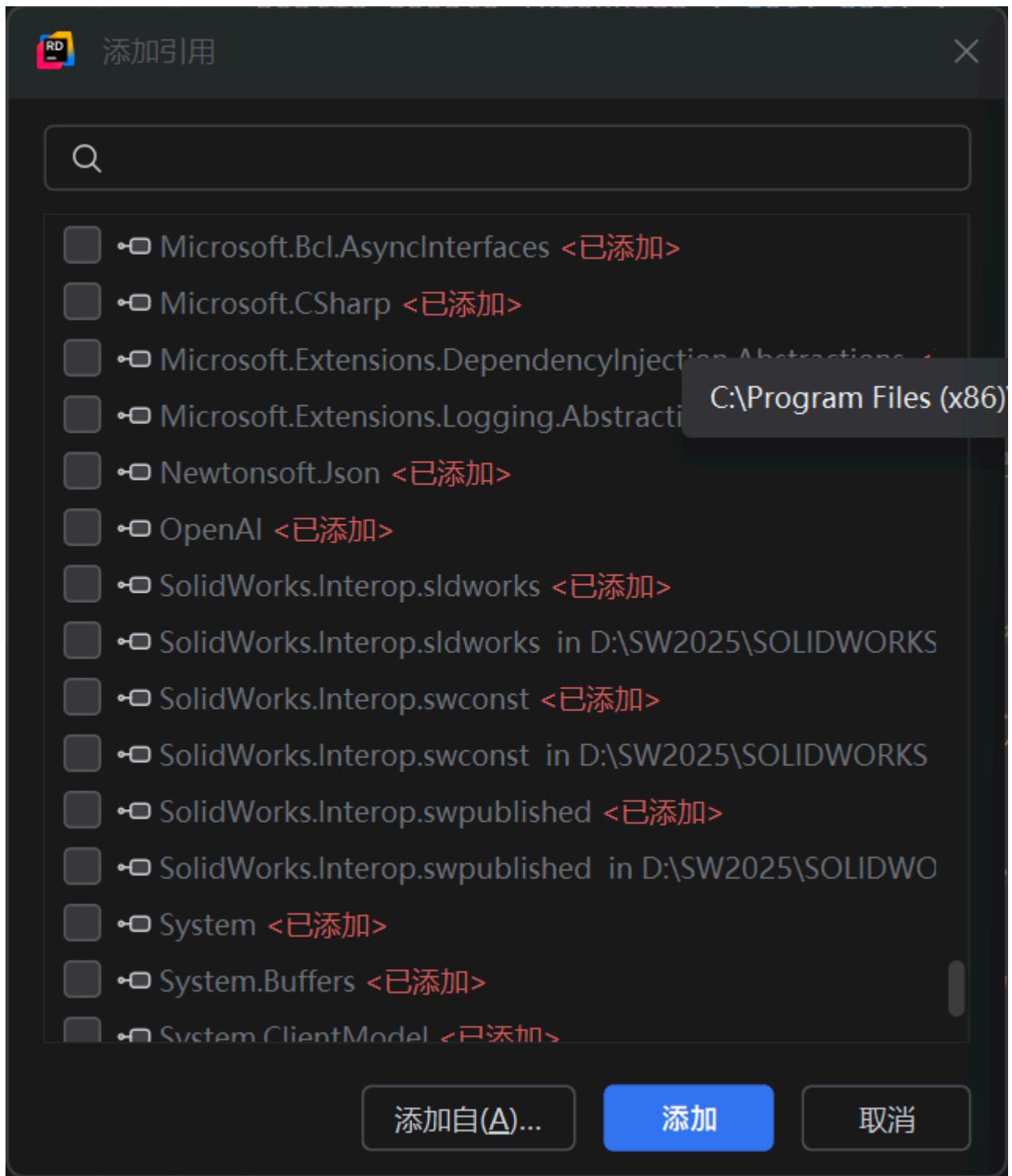
        var requestBody = new
        {
            model = "gpt-4.1-mini", // 你可以换成 gpt-4o-mini 或 gpt-4.1
            messages = new object[]
            {
                new
                {
                    role = "system",
                    content =
                        "你是一个 SolidWorks 建模规划器。" +
                        "根据用户的自然语言描述, 识别一个长方体特征的参数。"
                }
            }
        };
    }
}
```

右击AISW项目，选择添加，选择引用，将开头为solidworks的项改为你自己计算机solidworks目录下的dll的路径

SolidWorks.Interop.sldworks.dll

SolidWorks.Interop.swconst.dll

SolidWorks.Interop.swconst.dll



打开PowerShell输入

```
1 | [guid]::.NewGuid()
```

将得到的Guid替换swaddin.cs中第12行的Guid以及所有包含的项

The screenshot shows a code editor interface with a search bar at the top containing the text "guid". Below the search bar, there is a list of search results:

结果	文件名	行数
[T] <ProjectGuid>{437FF2A8-1551-4026-9EC4-3F63119D7C6A}</ProjectGuid>	AISW.csproj	8
[T] [Guid("437FF2A8-1551-4026-9EC4-3F63119D7C6A")] // 用你之前一直在用的那串 GUID	swaddin.cs	12
[T] // The following GUID is for the ID of the typelib if this project is exposed to COM	AssemblyInfo.cs	21
[T] [assembly: Guid("437FF2A8-1551-4026-9EC4-3F63119D7C6A")]	AssemblyInfo.cs	22
[T] "{" + t.GUID.ToString().ToUpper() + "};	swaddin.cs	76
[T] "{" + t.GUID.ToString().ToUpper() + "};	swaddin.cs	98

The code editor displays the content of the AssemblyInfo.cs file, which includes the following code:

```
16 // Setting ComVisible to false makes the types in this assembly not visible
17 // to COM components. If you need to access a type in this assembly from
18 // COM, set the ComVisible attribute to true on that type.
19 [assembly: ComVisible(false)]
20
21 // The following GUID is for the ID of the typelib if this project is exposed to COM
22 [assembly: Guid("437FF2A8-1551-4026-9EC4-3F63119D7C6A")]
23
24 // Version information for an assembly consists of the following four values:
25 // Major Version
26 // Minor Version
27 // Build Number
28 // Revision
29
30 //
31 // You can specify all the values or you can default the Build and Revision
32 // by using the '*' as shown below:
33 // [assembly: AssemblyVersion("1.0.*")]
```

Properties/AssemblyInfo.cs 在右侧拆分中打开

点击上方锤头按钮构建。

构建完毕后，软件会在项目根目录的ALSW/bin/Debug下生成AISW.dll，复制该dll的路径。

接下来，打开有管理员权限的 PowerShell 或命令行。

执行命令（路径换成你刚刚复制的dll的路径）：

```
1 "C:\Windows\Microsoft.NET\Framework64\v4.0.30319\regasm.exe" ` 
2   "C:\YourPath\SwAiAddin\bin\x64\Debug\SwAiAddin.dll" ` 
3   /codebase
4
```

若第一行命令不成功，请换成你找到的计算机的 regasm 路径。

最后，在SolidWorks里启用Add-in即可，启动SolidWorks可能会提示connecttoSW被调用，代表插件加载成功！

提醒：若使用插件跳出472报错则代表openai api用额不足，需要充值。