

| Repo Cal

在前端添加一个 `repo-cal` 模块，用于计算工作仓库中file级和artifact级的相关数据，作为知识提供给后端。

目前设计中，计算的内容包括：

1. file之间的cbo(耦合度)、cea(共享元素数量)和Jaccard文本相似度；
2. artifact之间的cbo、cea和Jaccard文本相似度【工件的粒度需要统一】。

目前通过命令 `Repo Cal` 启动。

| 方案：

| file级：

1. 递归遍历工作区目录，收集所有支持的文件类型（如 `.js`、`.py` 等）
 - 通过 `.gitignore` 和常见的排除目录列表，确保不对无关文件或目录（如 `node_modules`、`.git` 等）进行相似度计算
2. 对于每一种文件类型，计算文件对之间的cbo、cea和文本相似度。
 - 由于不同类型文件之间的计算方法不同（如：`python`文件之间和`java`文件之间的cbo和cea计算就不一样），因此需要对不同类型的文件分别计算。

| artifact级：

1. 递归遍历工作区目录，收集所有支持的文件类型（如 `.js`、`.py` 等）
 - 通过 `.gitignore` 和常见的排除目录列表，确保不对无关文件或目录（如 `node_modules`、`.git` 等）进行相似度计算
2. 对于每一种文件类型：
 - a. 提取出所有工件，形成该文件类型的工件列表；
 - b. 计算工件对之间的cbo、cea和文本相似度。

| 输出示例：

1. file之间:

文件类型统计: {" .md":3," .py":80," .json":6," .yaml":3," .sh":3}	extensionHostProcess...
-----文件类型: .md-----	extensionHostProcess...
***** todo: top 10 cbo *****	extensionHostProcess...
1. /Users/suyunhe/code/python/AnyTool/README.md <-> /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README.md: 0.0000	extensionHostProcess...
2. /Users/suyunhe/code/python/AnyTool/README.md <-> /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README_ZH.md: 0.0000	extensionHostProcess...
3. /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README.md <-> /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README_ZH.md: 0.0000	extensionHostProcess...
***** todo: top 10 cea *****	extensionHostProcess...
1. /Users/suyunhe/code/python/AnyTool/README.md <-> /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README.md: 0.0000	extensionHostProcess...
2. /Users/suyunhe/code/python/AnyTool/README.md <-> /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README_ZH.md: 0.0000	extensionHostProcess...
3. /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README.md <-> /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README_ZH.md: 0.0000	extensionHostProcess...
***** top 10 词汇相似度 *****	extensionHostProcess...
1. /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README.md <-> /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README_ZH.md: 0.5205	extensionHostProcess...
2. /Users/suyunhe/code/python/AnyTool/README.md <-> /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README.md: 0.1899	extensionHostProcess...
3. /Users/suyunhe/code/python/AnyTool/README.md <-> /Users/suyunhe/code/python/AnyTool/toolbench/toolval/README_ZH.md: 0.1359	extensionHostProcess...
-----文件类型: .py-----	extensionHostProcess...
***** todo: top 10 cbo *****	extensionHostProcess...
1. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/anytool/check_solved.py: 0.0000	extensionHostProcess...
2. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/anytool/dfs_gt.py: 0.0000	extensionHostProcess...
3. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/anytool/prompt_template.py: 0.0000	extensionHostProcess...
4. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/anytool/rapidapi.py: 0.0000	extensionHostProcess...
5. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/anytool/verifier.py: 0.0000	extensionHostProcess...
6. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/arguments.py: 0.0000	extensionHostProcess...
7. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/config_example.py: 0.0000	extensionHostProcess...
8. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/openai_utils.py: 0.0000	extensionHostProcess...
9. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/preprocess/extract_api_details.py: 0.0000	extensionHostProcess...
10. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/preprocess/extract_category_tool_details.py: 0.0000	extensionHostProcess...
***** todo: top 10 cea *****	extensionHostProcess...
1. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/anytool/check_solved.py: 0.0000	extensionHostProcess...
2. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/anytool/dfs_gt.py: 0.0000	extensionHostProcess...
3. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/anytool/prompt_template.py: 0.0000	extensionHostProcess...
4. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/anytool/rapidapi.py: 0.0000	extensionHostProcess...
5. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/anytool/verifier.py: 0.0000	extensionHostProcess...
6. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/arguments.py: 0.0000	extensionHostProcess...
7. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/config_example.py: 0.0000	extensionHostProcess...
8. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/openai_utils.py: 0.0000	extensionHostProcess...
9. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/preprocess/extract_api_details.py: 0.0000	extensionHostProcess...
10. /Users/suyunhe/code/python/AnyTool/anytool/api_database_function.py <-> /Users/suyunhe/code/python/AnyTool/preprocess/extract_category_tool_details.py: 0.0000	extensionHostProcess...
***** top 10 词汇相似度 *****	extensionHostProcess...
1. /Users/suyunhe/code/python/AnyTool/anytool/rapidapi.py <-> /Users/suyunhe/code/python/AnyTool/toolbench/inference/Downstream_tasks/rapidapi.py: 0.9604	extensionHostProcess...
2. /Users/suyunhe/code/python/AnyTool/preprocess/extract_category_tool_details.py <-> /Users/suyunhe/code/python/AnyTool/preprocess/extract_tool_database.py: 0.8448	extensionHostProcess...
3. /Users/suyunhe/code/python/AnyTool/anytool/check_solved.py <-> /Users/suyunhe/code/python/AnyTool/toolbench/toolval/eval_pass_rate.py: 0.5411	extensionHostProcess...
4. /Users/suyunhe/code/python/AnyTool/anytool/rapidapi.py <-> /Users/suyunhe/code/python/AnyTool/scripts/anytoolbench_generation.py: 0.4665	extensionHostProcess...
5. /Users/suyunhe/code/python/AnyTool/scripts/anytoolbench_generation.py <-> /Users/suyunhe/code/python/AnyTool/toolbench/inference/Downstream_tasks/rapidapi.py: 0.4630	extensionHostProcess...
6. /Users/suyunhe/code/python/AnyTool/preprocess/extract_api_details.py <-> /Users/suyunhe/code/python/AnyTool/preprocess/extract_tool_database.py: 0.3846	extensionHostProcess...
7. /Users/suyunhe/code/python/AnyTool/toolbench/inference/Algorithms/DFS.py <-> /Users/suyunhe/code/python/AnyTool/toolbench/inference/Algorithms/single_chain.py: 0.3846	extensionHostProcess...

2. artifact之间:

尚未完成。