

KAIST 다행언어 열델 기반 자동디버깅 툴 평가를 위한 GitHub Recent Bugs

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## LLM 데이터 '오염' 예시

#### Matching Text Found spans are in grey. The longest span is in blue. Hovering over a character highlights the longest span that includes that character (there may be overlapping shorter spans). Clicking shows the component substrings below. @Override public |sonDeserializer <? > createContextual(DeserializationContext ctxt, BeanProperty property) throws |sonMappingException // May need to resolve types for delegate-based creators: |sonDeserializer<Object> delegate = null; if ( valueInstantiator != null) { // [databind#2324]: check both array-delegating and delegating AnnotatedWithParams delegateCreator = valueInstantiator.getDelegateCreator(); if (delegateCreator != null) { JavaType delegateType = valueInstantiator.getDelegateType(ctxt.getConfig()); delegate = findDeserializer(ctxt, delegateType, property) serializer<?> valueDeser = valueDeserializer inal [avaType valueType = containerType.getContentType( (valueDeser == null) {

**Figure 1.** A screenshot of the data inclusion website of Star-Coder. Entire portions of the method are included, and the overlap break (gray to blue) happens at the fix location.

## Defects4J는 '오염' 되어있다

**Table 1.** Compromised bugs by Defects4J v1.0 project

Project	# Bugs	% Comp.	Project	# Bugs	% Comp.
Math	104	67.3%	Lang	61	78.7%
Time	25	92.0%	Chart	25	72.0%
Closure	130	35.4%			

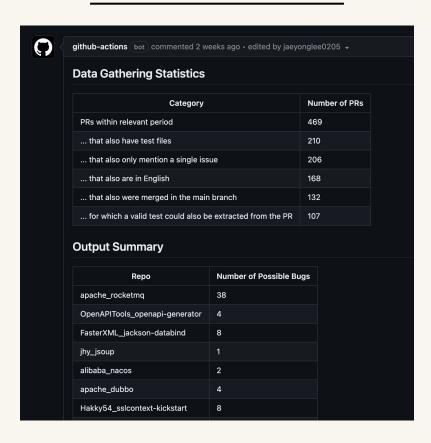
기준: 버그 함수 혹은 버그 재현 테스트가 StarCoder데이터에 90% 이상 포함

## 그래서 (반자동으로) 새 버그를 모았습니다

TABLE I
PROJECTS AND NUMBER OF REAL BUGS AVAILABLE IN THE PUBLIC RELEASE OF GHRB (AS OF 19 JANUARY 2024)

Project	Bugs	LoC	Test LoC	# Tests	# Stars	Project	Bugs	LoC	Test LoC	# Tests	# Stars
fastjson	1	43.6k	143.4k	>435	25.4k	jackson-dataformat-xml	1	5.9k	9.4k	>2	541
nacos	6	215.9k	8.7k	2.7k	27.4k	gson	12	9.0k	19.6k	1.3k	22.4k
dubbo	1	146.7k	89.4k	3.3k	39.3k	sslcontext	6	3.7k	7.2k	497	406
rocketmq	17	150.3k	54.7k	1.7k	19.8k	jsoup	5	14.3k	12.5k	1.1k	10.3k
asserti	4	45.9k	161.4k	11.8k	2.4k	openapi-generator	5	9.8k	37.6k	1.8k	17.5k
checkstyle	15	41.7k	238.2k	4.5k	7.8k	seata	2	166.4k	30.5k	1.0k	24.2k
jackson-core	3	30.7k	44.8k	>100	2.2k	retrofit	1	3.9k	6.5k	329	42k
jackson-databind	5	73.1k	71.0k	>28	3.3k	Apktool	1	10.7k	3.4k	202	17.6k
						Total	85	972	938k	30.8k	263k

# (반자동으로) 매달 새 버그가!



### 인터페이스도 있어요



#### **∂** Using GHRB

Some example commands for the command-line interface are as follows:

(Note that all directory paths given to the tool need to be absolute paths within the container.)

- 1. info View information about a project or a particular bug.
  - o Example: ./cli.py info -p gson
- 2. checkout checkout the buggy or fixed version of a bug.
  - Example: ./cli.py checkout -p gson -v 1b -w /root/framework/testing
- 3. compile compile the code in a directory.
  - © Example: ./cli.py compile -w /root/framework/testing
- 4. test run the tests for a project.
  - o Example: ./cli.py test -w /root/framework/testing

Information of other commands can be retrieved using the -h flag.



