



GitHub Copilot과 생산성 향상



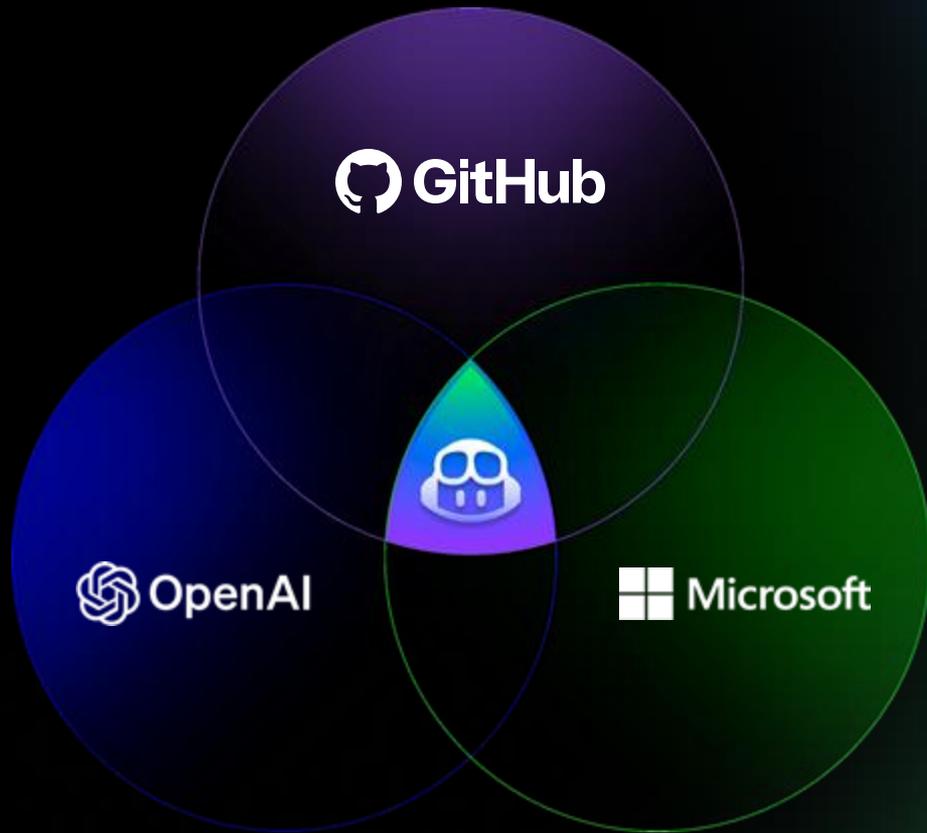
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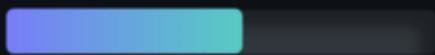
Aug 2024





가장 진보된
AI 모델:
가장 진보된
코드 생성





55%

 **Faster
Coding**



46%

 **Code
written**



75%

 **More
fulfilled**



Copilot을 활용한 개발 생산성 향상은 엔터프라이즈 기업에 엄청난 효과를 줍니다.



Release
cycle agility

55%

Faster completion



Developer
onboarding

57%

More upskilling



Developer
retention

41%

Less burnout



35%

Suggestion acceptance rate



Copilot Chat

PUBLIC BETA

IDE

Improve code quality with contextual conversations.

Unit tests 생성

Copilot Chat은 에디터의 코드를 기반으로, 또는 선택된 코드 블록을 기반으로 unit test의 생성을 도울 수 있습니다.

Code 설명

Copilot Chat은 선택된 코드 블록에 대해 자연어로 코드의 기능과 목적에 대해 설명해 줍니다.

Code 버그 fix

Copilot Chat은 코드내 버그에 대해 에러 또는 문제점의 context를 기반으로, fix를 위한 코드 snippet을 제안해 줍니다

코딩관련 질문

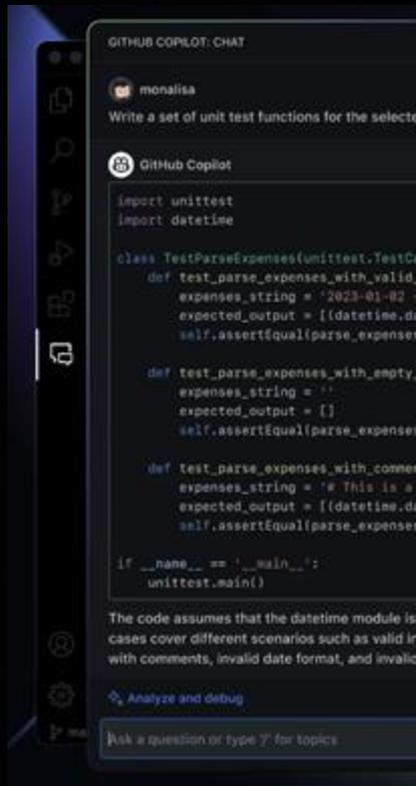
Copilot Chat은 사용자에게 특정 코딩 관련 문제점에 대한 도움이나 설명을 자연어로 제공하거나, code snippet의 형태로 제공해 줍니다.

코딩 언어간 변환

Copilot Chat은 하나의 프로그래밍 언어를 다른 언어로 변환할 수 있습니다.

Increase readability

Copilot Chat은 필요한 코멘트를 추가하거나 더 좋은 변수 이름등을 제안해 주어 가독성을 높이는데 도움을 줍니다.



Code 완성

```
Welcome binary-search.py
Users > 2percentalk > binary-search.py
1 // Implement a binary search algorithm
2
3 def binary_search(array, target):
4     # Write your code here.
5     return binary_search_helper(array, target, 0, len(array) - 1)
6
7 def binary_search_helper(array, target, left, right):
8     if left > right:
9         return -1
10    middle = (left + right) // 2
11    potential_match = array[middle]
12    if target == potential_match:
13        return middle
14    elif target < potential_match:
15        return binary_search_helper(array, target, left, middle - 1)
16    else:
17        return binary_search_helper(array, target, middle + 1, right)
```

☑ 커멘트를 코드로 변환

☑ 반복적인 task 자동 완성

☑ 선택할 수 있는 여러 개 대안 코드 제안

```
sentiment.ts write_sql.go parse_expenses.js
1 #!/usr/bin/env ts-node
2
3 import { fetch } from "fetch-h2";
4
5 // Determine whether the sentiment of text is positive
6 // Use a web service
7 async function isPositive(text: string): boolean {
8
9
10
11     const response = await fetch(`http://t
12         method: "POST",
13         body: `text=${text}`,
14         headers: {
15             "Content-Type": "application/x-www
16         },
17     });
18     const json = await response.json();
19     return json.label === "pos";
20 }
21 }
```

Copilot



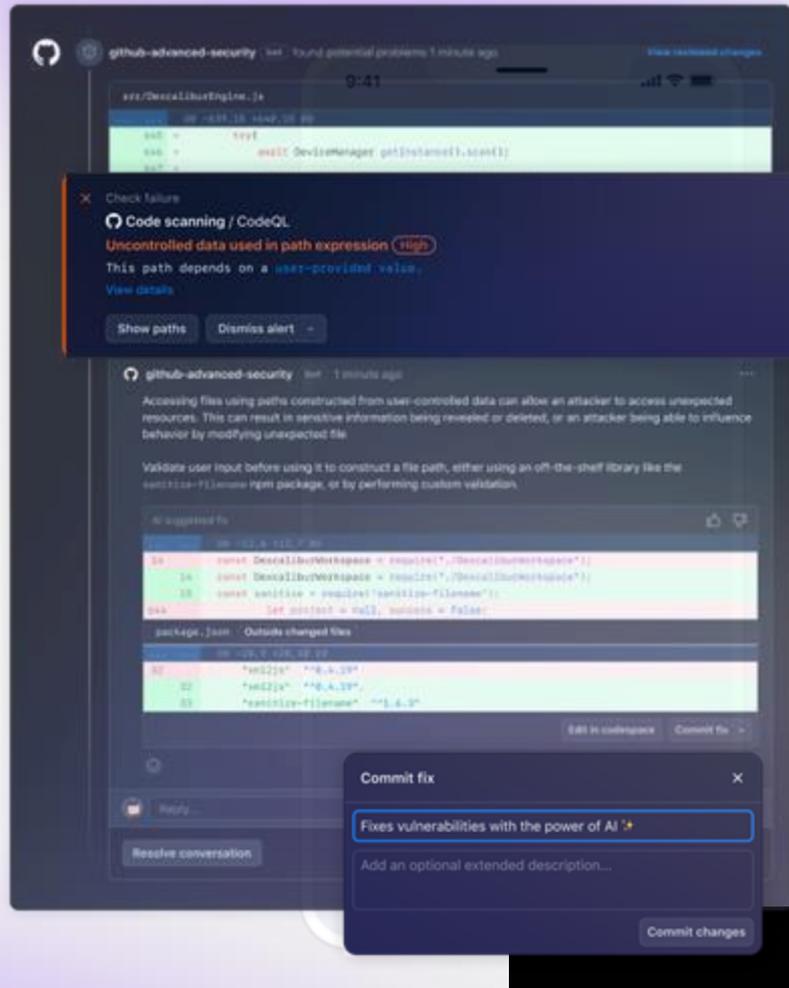
Auto-fix : AI-powered remediation

✓ Pull Request 안에서 발생한 보안 문제점에 대한 즉시 수정

✓ Faster time to remediation

✓ 보안 취약성이 추가되는 것을 사전에 방지

✓ Supports default/extended queries suites :
C#, C/C++, Go, Java/Kotlin, Swift, JS/TS,
Python, Ruby





대화형 검색, 질의 응답.

GitHub Enterprise 웹 페이지(GitHub.com)에서
Copilot과 Chat

- ☑ 대화형 소스코드 검색
- ☑ Customized to your documentation
- ☑ Summaries and references to sources



Technical Preview



GitHub Copilot Workspace

octoacademy / utils-library main

src/utils.py

- Add a function to validate secure URLs
- Add a function to validate GitHub URLs
- + Add item

README.md

- Update the README to include a summary of the repository
- Add a section summarizing the key validation methods with examples
- Include a section about the license linking to the LICENSE file
- Add a section explaining how to contribute
- + Add item

CONTRIBUTING.md

- Write steps on how to contribute to the project. Make sure there is a step explaining GitHub Codespaces and the dev container.json and how they ease the setup process.
- + Add item

General notes

- * Avoid duplicate documentation and information. Instead, have a preference of linking to any existing materials (e.g. lines of code, CONTRIBUTING.md or LICENSE files) in the repo.
- + Add item

Add file to plan

Update selected files

Files changed 3

Split Unified

src/utils.py

Dismiss

```

1 1 import re
2 2
3 3 # Regular expression for validating email addresses
4 4 email_regex = r'^[w\.\+\-]+@[a-zA-Z0-9\-\]+\.[a-zA-Z0-9\-\.\]+$'
5 5
6 6 # Regular expression for validating phone numbers
7 7 phone_regex = r'^(\+)?1?\d{9,15}$'
8+
9+# Regular expression for validating secure URLs
10+secure_url_regex = r'^https:///'
11+
12+# Regular expression for validating GitHub URLs
13+github_url_regex = r'^https://\./github\.com/[a-zA-Z0-9\-\-]/[a-zA-Z0-9\-\-]+'
14
15 15 def is_email_valid(email):
16 16     """Check if the email matches the email regular expression."""
17 17     return bool(re.search(email_regex, email))
18 18
19 19 def is_phone_valid(phone):
20 20     """Check if the phone number matches the phone regular expression."""
21 21     return bool(re.search(phone_regex, phone))
22 22
23+def is_secure_url_valid(url):
24+    """Check if the URL is a secure URL."""
25+    return bool(re.search(secure_url_regex, url))
26+
27+def is_github_url_valid(url):
28+    """Check if the URL is a valid GitHub repository or subdomain URL."""
29+    return bool(re.search(github_url_regex, url))
30+

```

README.md

Dismiss

Copilot Extensions

Support for plugins and customer-curated data.

We'll be working with GitHub Technology Partners to create an ecosystem for new networks and ingenuity to be infused into GitHub Copilot, broadening the expanse of what developers can achieve with AI.

- ✓ Extend use cases and capabilities for Copilot
- ✓ Build new plugins for Copilot
- ✓ Extend Copilot's knowledge to data stored outside of GitHub



← All repositories ... ▾ ✕

 **Chat about programming**
Learn about programming-related concepts.

Copilot is powered by AI, so mistakes are possible. Review output carefully before use. [Learn more about GitHub Copilot Chat.](#)

 **Sentry** @sentry

 **Datastax** @datastax

 **Docker** @docker

 @ | 

 **Setting Environment Variable in Docker** + ... ▾ ✕

 **monalisa** Now

[@docker](#) how can I set up env variables when I run a container

 **docker** Now

You can set up environment variables in the Docker container by using the `-e` or `--env` option with `docker run` in your command line. The syntax would look like this:

```
docker run -e VARIABLE_NAME=value image_name
```

Replace `VARIABLE_NAME` with the name of the variable and value with the value that you want to set for the variable. Also, replace `image_name` with the name of your Docker image.

 @docker | 



Copilot 을 통한
개발 생산성
향상은 개발자들이
정말 중요한 것에
집중함을
의미합니다.

✔ More time on

Designing

Brainstorming

Collaborating

Iterating

Planning

✘ Less time on

Writing Tests, Repetitive Code, & Boilerplate

Debugging

Searching Documentation

Finding Vulnerabilities

Deciphering Existing Code

Correcting Syntax

Summarizing Changes and Comments

Learning Git Commands



Copilot을 통한
개발 생산성
향상은 속도
이상의 것입니다.

87%

반복적인 task에 적은
정신적 노력

74%

더 만족도 높은
업무에 집중

73%

의 개발자가 더욱
높은 집중도를 유지

Safe, Trustworthy, and Reliable

제품 디자인 자체에 'Responsible AI' 에 대한 완전한 디자인을 통해, 기술과 제품에 대한 신뢰 뿐 아니라 GitHub에 대한 파트너로서의 신뢰를 드립니다.

- ✓ Privacy: Handling your data responsibly
- ✓ Security: Azure infrastructure and encryption
- ✓ Copyright: Respecting intellectual property rights



GitHub Copilot의 사용은 엄청난
혁신의 가능성을 열어 줍니다.

Sebastian Barrios

SVP of Technology @ Mercado Libre



mercado
libre

GitHub Copilot

**Built for tomorrow,
ready for today.**

