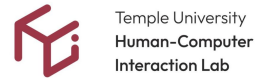
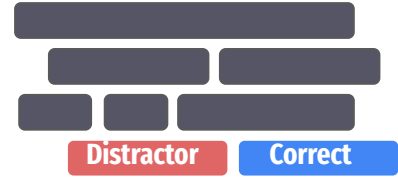


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Fostering Responsible AI Use Through Negative Expertise: A Contextualized Autocompletion Quiz

Stephen MacNeil, James Prather, **Rahad Arman Nabid**, Sebastian Gutierrez, Silas Carvalho, Saimon Shrestha, Paul Denny, Brent N. Reeves, Juho Leinonen, and Rachel Louise Rossetti.





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3 weeks ago



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May 7, 2023

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PUBLISHED JUNE 23, 2023

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AI chatbots have triggered a panic among educators, who are flooding listservs, webinars and professional conferences to figure out how to deal with the technology



By Dranshu Verma

August 13, 2023 at 7:00 a.m. EDT

WIRED

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Dec 22, 2023

The End of Programming
CACM

THE END OF PROGRAMMING

By Matt Welsh

CLASSICAL CS
DELETE

January 2023
Communications of the ACM

03:44

vimeo

Autocompletion Tool (GitHub Copilot)

```
1
2 def common_prefix(a, b):
3     """Return the common prefix of two lists."""
4     if len(a) < len(b):
5         return common_prefix(b,a)
6     for i in range(len(a)):
7         if a[i] != b[i]:
8             return a[:i]
9     return a
10
11
12
```



A recent study found that more than **1.2 million users** are actively using Copilot in their development environments (IDEs) [1].

Essentially, they **take sequences of existing code and comments** to predict the next sequence of tokens [2].

1. Puryear, Ben, and Gina Sprint. "Github copilot in the classroom: learning to code with AI assistance." *Journal of Computing Sciences in Colleges* 38.1 (2022): 37-47.
2. <https://github.com/features/copilot>

Problems of Github Copilot using with Students

Over-reliance

Copilot-style autocomplete can cause novice students to depend too heavily on AI, accept incorrect code, and develop an *illusion of competence*, which harms learning.

Lack of Critical Thinking

Students often do not critically evaluate AI-generated suggestions and trust them without questioning.

Debugging Difficulties

When students blindly accept flawed outputs, they follow incorrect solution paths and end up in unproductive debugging cycles.

***AUTOSUGGESTION QUIZ SYSTEM WITHIN A
SIMULATED IDE ENVIRONMENT DESIGNED TO
HELP STUDENTS THINK CRITICALLY ABOUT
AUTO-GENERATED CODE SUGGESTIONS.***

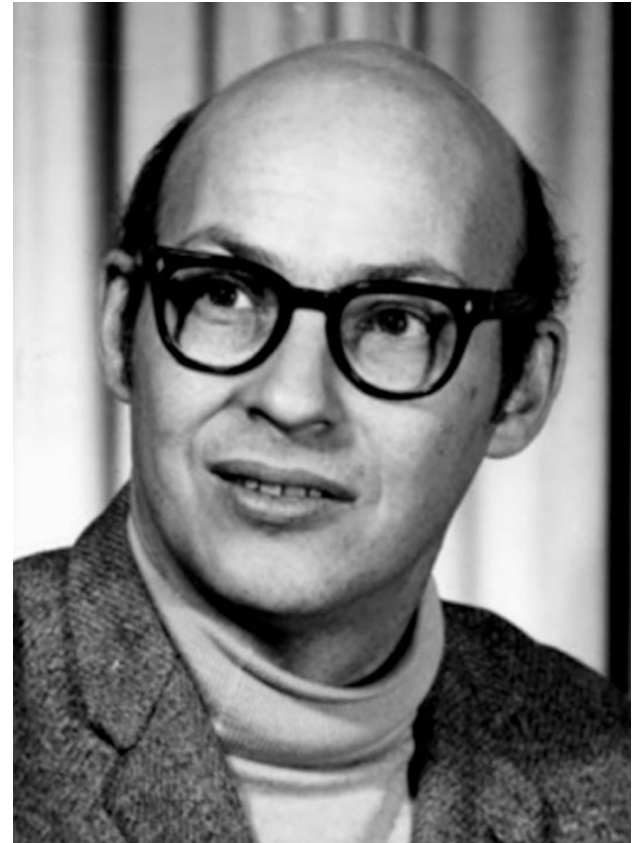
Students who accelerated seemed to know when an AI suggestion would be helpful and when it wouldn't.

We teach students what works, but it may be just as important to teach them about what does **not** work.

“In order to think effectively, we must ‘know’ a good deal about what not to think! Otherwise we get bad ideas – and also, take too long.”

- Marvin Minsky

Students must develop a **“negative expertise”** around GenAI coding tools.



Marvin Minsky

PROBLEM DETAILS

PROBLEM STATEMENT

Write a function to find the longest common prefix string amongst an array of strings.
If there is no common prefix, return an empty string "".

TEST CASES

Example 1:
Input: strs = ["flower", "flow", "flight"]
Output: "fl"
Example 2:

Input: strs = ["dog", "racecar", "car"]
Output: ""
Explanation: There is no common prefix among the input strings.

CONSTRAINTS

1 <= strs.length <= 200
0 <= strs[i].length <= 200
strs[i] consists of only lowercase English letters if it is non-empty.

Python Code Quiz

logest_common_prefix.py

```
1 def longestCommonPrefix(strs):
2     if not strs:
3         return ""
4     for i in range(len(strs[0])):
5         char = strs[0][i]
6         for word in strs[1:]:
```

```
            if i >= len(word) or word[i] != char:
                return ""
            if i < len(word) and word[i] == char:
                continue
            if i < len(word) and word[i] != char:
```

Attempts left: 1 Time left: 19:48

Attempts and Time left

Code Suggestions
(1 Correct, 2 distractor)

Problem Description

TERMINAL

Run Code Submit Quiz

Click "Run Code" to execute your program...

Access the Tool:



<https://www.autosuggestionquiz.com/>