

Artificial intelligence can now also be programmed

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Artificial intelligence (AI) is growing and making great progress. Recently, Jacob Jackson - a programmer who graduated from Computer University at Waterloo University has developed Deep TabNine, a tool with the function of automatically completing commands in programming.

This tool is essentially an add-on. Developers download and integrate Deep TabNine into the Text editors or IDE (Integrated Development Environment) they use to program. When the developers start the code, Deep TabNine will give suggestions so that they can complete the command line quickly.

```
1 #include <iostream>
2 #include <vector>
3 #include <unordered_set>
4
5 using namespace std;
6
7 // Check if standard input contains 3 numbers that sum to 0
8 bool three_sum() {
9     int n;
10    cin >>|
11 }
12
13
14
15
16
17
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21
22
23
24
```

Jacob Jackson said this kind of software has appeared before but if adding more machine learning it will bring a lot of unexpected benefits to us.

Jackson started developing Deep TabNine from February last year and debuted in November.

```
1 import os
2 import sys
3
4 # Count lines of code in the given directory, separated by file extension
5 def main(directory):
6     line_count = {}
7
8
9
10
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```

Before the month of the release, he released an updated version of Deep TabNine called GPT-2, using deep-learning text-generation algorithms - the algorithm designed and built by the research lab. OpenAI's rescue. Jackson's tool immediately surprised many programmers because of its accuracy.



Andrej Karpathy ✓
@karpathy



Autocompletion with deep learning tabnine.com/blog/deep
very cool! I tried related ideas a long while ago in days of char-rnn but it wasn't very useful at the time. With new toys (GPT-2) and more focus this may start to work quite well.

```
1 import os
2 import sys
3
4 # Count lines of code in the given directory, separated by file extension
5 def main(directory):
6     line_count = {}
7     for filename in os.listdir(directory):
8         _, ext = os.path.splitext(filename)
9         if ext not in line_count:
10            lin|
11            line_count[ext] =      Tab 16%
12            line_count[ext] = Tab+Tab 17%
13            line_count[ext] = 1   Tab+3 11%
14            line_count[ext] = 0   Tab+4  4%
15            line_count      Tab+5 17%
```

♥ 1,170 11:14 PM - Jul 18, 2019



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To increase accuracy, Jackson gave Deep TabNine training with more than two million source files from GitHub. Currently, this tool can work with nearly 20 different programming languages including: JavaScript, Java, Python, C ++, C, PHP, Go, C #, Rust, Swift, Ruby, Objective-C, TypeScript, Haskell, Kotlin, Perl, SQL, OCaml, Scala, HTML, CSS, and Bash.

Although this tool is still flawed in some cases, programmers still greatly appreciate the convenience it offers in programming.

```
1 public class StringUtils {
2     /**
3      * Concatenates two strings
4      *
5     }
6
7
8
9
10
11
12
13
14
15
```

Jackson said, he will continue to develop Deep TabNine in the future.

Currently, this tool is sold for 49USD (equivalent to 1.2 million VND) for individual users and 99USD (equivalent to 2.3 million VND) for businesses.

You can access Jacob Jackson's personal page on Twitter by following the link below to learn more about this interesting tool.

<https://twitter.com/karpathy/status/1151887984691576833>

1. The AI ??knows how to play poker, beating the best in the world in a 6-player game

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