Research Cover Sheet

Can gpt3.5 answer programming questions that score higher than university programming students in code quality?

https://github.falmouth.ac.uk/TC262389/Programming-Questions-Research

Introduction

You are being asked to take part in a student's dissertation research project, which is investigating the capacities of OpenAI's engine gpt3.5 to write good code. It is important that you understand why the research is taking place and what your involvement will entail. Take care reading this document, and take your time deciding whether to take part. Please feel free to ask any questions. Thank you for your participation.

Summary

- **What?** The study will ask you to answer 5 programming questions in Python as part of a study to investigate the code-writing ability of gpt3.5. You have 2 weeks to submit the answers, from the date of your agreement. A reminder will be given.
- **Why?** The study is part of my 3rd year dissertation for my Computer Science BCs
- **Where?** Participation can be completed from an area of your choosing, location is unimportant.
- **When?** The due date for question 2 weeks from start but results cannot be taken after the **16th of March.**
- **Who?** You can contact me at tc262389@falmouth.ac.uk with any questions you might have.

The Github repository with the questions. https://github.falmouth.ac.uk/TC262389/Programming-Questions-Research

What is the Study?

The study is being undertaken as part of my dissertation for my 3rd-year computer science BSc at Falmouth University. This study aims to investigate the code-generation abilities of OpenAI's large-language module gpt3.5 as compared to students' abilities. In particular, the quality of code. The aim is to gather students' answers and gpt3.5's generations to programming questions and then perform levels of analysis on the responses.

Your participation

The requirements of participation are simply to be taking classes studying programming. A minimum of 45 participants are needed to fulfil the study's requirements. There are no disqualifiers to take part. There is no time limit for each question. You have 2 weeks to complete and submit the questions from the start of participation, **the 16th of April at the latest.**

As a programming student, you have been chosen for participation, however, there is no requirement for you to partake in the study and you can withdraw your participation at any point, without reason. There are no rewards for participation, except for my dearest thanks for helping me complete my dissertation and advancement of knowledge.

What's Involved

You will be required to answer 5 programming questions in Python. The questions will vary in difficulty. You must answer them organically, without the aid of any generative software. There is no consequence for getting the questions wrong and your honesty in coding will aid the study, whether functionally coherent or not.

Questions and submissions will be provided to you through a GitHub repository. You can submit a pull request with your answers, or send an email to tc26239@falmouth.ac.uk with your own repo or the answers in code.

Risks

There are no significant risks to you while participating, however, there are two to note:

- Risk: Wrist strain. || Solution: Take care of posture and take regular breaks
- Risk: Malicious Code || Solution: Ensure that you copy/fork the correct repo, as linked in this sheet

Data Policy

There is no requirement for you to submit any personal data through the study. Data collected either through email submission or Github will be kept for the duration of the study, in which the data will be destroyed afterwards. Storage of answers will be kept in line with GDPR regulations and will be destroyed after the study's completion. The study will conclude in April.

You can withdraw your participation at any point during the study, even after you have submitted your results. If you do, any submitted solutions will be destroyed from records.

If you wish, you can be updated on the study's conclusion and findings. However, this is of no requirement.

Contact

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Github: https://github.falmouth.ac.uk/TC262389/Programming-Questions-Research

Thank you for your time and participation.