

Ethical Use of AI in Python Software Development

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Time required: 90 minutes

Assignment Overview

In this assignment, students will explore the ethical considerations involved in using AI tools for software development. They will use AI to assist in creating a Python program while adhering to ethical guidelines. The goal is to understand the importance of responsible AI usage in the development process.

Learning Objectives

- Understand the ethical implications of using AI in software development.
- Demonstrate the ability to use AI tools to assist in programming tasks.
- Develop a Python program with AI assistance while ensuring originality and ethical integrity.
- Reflect on the ethical challenges and responsibilities associated with AI use in programming.

Assignment Instructions

1. Read the **Student Guide to AI** attached to this assignment.

2. Program Development with AI Assistance

3. Program Requirements:

- Create a Python program that meets the following criteria:
 - The program should solve a specific problem or automate a task (e.g., password generator, data analysis tool, simple game).
 - Use AI tools (e.g., ChatGPT, Copilot, or other code-generation tools) to assist in writing parts of your code.
 - The program should include at least three distinct functions, and proper error handling, and be well-documented with comments.

AI Usage

- Identify specific areas where AI assistance was used (e.g., generating code snippets, debugging, improving efficiency).
- Ensure that the use of AI does not involve directly copying large blocks of code without understanding or modification.
- Include comments in your code indicating where AI assistance was used.

Originality Check

- Ensure that your final program is original and does not simply replicate examples or tutorials found online.
- Use plagiarism detection tools to verify the originality of your work.

Additional Notes:

Collaboration with classmates is encouraged for brainstorming and discussing ethical issues, but each student must submit their own original work.

Reflection

- Write a 200-word reflection on the ethical challenges of using AI in programming.
- Discuss the potential risks and benefits of AI tools, emphasizing how to use them responsibly.

- Include at least two real-world examples where AI was used ethically or unethically in software development.

Instructor's Note:

This assignment is designed to encourage you to think critically about the role of AI in software development. Remember that while AI can be a powerful tool, it must be used responsibly and ethically. Your creativity and integrity are just as important as your technical skills.

Good luck! I'm looking forward to seeing your innovative and ethical solutions!

Assignment Submission

1. Attach the program files.
2. Attach screenshots showing the successful operation of the program.
3. Attach a Word document with your Chat transcript.
4. Attach your 200 word reflection.
5. Submit in Blackboard.