Python Goldens Training Curriculum

Objectives:

At the completion of this course, trainees will be able to:

- Identify verbally and in written form all of the sections of a prompt rewrite case.
- Describe verbally and in written form the type of data contained in each section in a prompt rewrite case.
- Describe in spoken and written forms each of the CAI violations.
- Distinguish between CAI violations.
- Accurately write a Strategy Reasoning statement in the third voice and that includes the rationale for each tool call.
- Identify errors in a Strategy Reasoning statement.
- Accurately write tool comments in the first person that includes the rationale for that tool call.
- Create tool call blocks.
- Use the CAI Principles to describe violations in a case.
- Correctly write a Strategy Reasoning statement.
- Correctly write a complete Strategy Steps section.
- Correctly write tool comments.
- Distinguish between the initial and subsequent tool comments.
- Watch the mini videos on each concept.
- Read mini PowerPoint Slides on each concept.
- Complete quizzes on each concept/section
- Complete comprehensive exams

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Identify all of the sections of a prompt rewrite case

Objectives:

At the completion of this course, trainees will be able to:

- Watch the mini videos on each concept.
- Read mini PowerPoint Slides on each concept.
- Complete quizzes on each concept/section
- Complete comprehensive exams
- Query: Understand the user's national language question.
- Query Intent: Identify the underlying goal or action the user wants to achieve.
- Strategy Reasoning: Determine the optimal approach to fulfill the user's intent.
- Strategy Steps: Break down the chosen approach into specific, actionable steps.
- Trajectory: Details about the execution of the strategy, including tool usage, outputs, and relevant information.
- Reference: Identify the types and from where references are drawn, including the reference format and style conventions
- Summary: Determine what outputs are appropriate to include in the summary. Include issues related to avoiding verbatim violations and degrading gracefully.

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Training Modules:

Module 1: Introduction to AI Prompt Rewriting

- Watch the mini videos on each concept.
- Read mini PowerPoint Slides on each concept.
- Complete quizzes on each concept/section
- Complete comprehensive exams
- Overview: This module will introduce the concept of AI prompt rewriting and its role in improving AI functionalities.
- Benefits: Discuss the advantages of effective prompt rewriting, such as improved accuracy, efficient, and user experience.
- Challenges: Explore potential challenges in prompt rewriting, like ambiguity in user queries and limitations of AI models.

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Module 2: Understanding the Query and Intent

- Watch the mini videos on each concept.
- Read mini PowerPoint Slides on each concept.
- Complete quizzes on each concept/section
- Complete comprehensive exams
- Natural Language Processing (NLP) Fundamentals: Introduce key NLP concepts like tokenization, stemming, lemmatization, and sentiment analysis.
- Understanding User Intent: Explain how to identify the user's intended action behind their question.
- Exercises: Provide practice exercises with real-world user queries to identify the intent.
- Video Recording (This 10 - 15 minute training video reinforces the group session, where the moderator (a la YouTube how-to videos) walks the viewer through their thought process as they decode the Query and write the Query Intent.

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Assessing Training Effectiveness

- Watch the mini videos on each concept.
- Read mini PowerPoint Slides on each concept.
- Complete quizzes on each concept/section
- Complete comprehensive exams
- Call on volunteers to answer questions
- Call on individuals who do not volunteer (Be friendly and explain that you will call individuals to make sure that no one is being left behind-this is to help disarm those who might be uncomfortable with public speaking).
- Several 2- to 4- minute Google Form written practice exercises.
- Graded written Google Form assessments

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Module 3: Strategy Reasoning and Step Breakdown

- Watch the mini videos on each concept.
- Read mini PowerPoint Slides on each concept.
- Complete quizzes on each concept/section
- Complete comprehensive exams
- Mapping Intent to Strategy: Illustrate how different user intents can lead to different AI interaction strategies.
- Strategy Decomposition: Explain how to break down chosen strategies into specific steps using Python code.
- Exercises: Train participants to analyze intent and develop corresponding strategies with step-by-step code implementation.

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Assessing Training Effectiveness

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Module 4: Mastering the Trajectory Section

- Watch the mini videos on each concept.
- Read mini PowerPoint Slides on each concept.
- Complete quizzes on each concept/section
- Complete comprehensive exams
- Tool Usage: Explain common tools used in AI prompt rewriting, including Google Maps, Google Search, and code libraries.
- Trajectory Components: Deep dive into each element of the Trajectory section, including tool comments, outputs, references, summary, map renders, and CAI violations (if applicable)
- Exercises: Provide examples and practice exercises for crafting clear and informative Trajectory sections for various user intents (Practice exercises should begin with a single section. Once the majority of the group demonstrates competency (80% accuracy) on that section, then focus on the next section. Continue until all sections have been experienced.

Module 5: Constitutional AI (CAI) Principle Violations

- Watch the mini videos on each concept.
- Read mini PowerPoint Slides on each concept.
- Complete quizzes on each concept/section
- Complete comprehensive exams

Discuss what are Constitutional AI Principle Violations

- Discuss what are Primary Intent violations and where they can occur
    - Discuss how to capture a Primary Intent violation using the Capture section tool
    - Discuss how to document a reasoning statement in the Critique Reasoning field.
    - Identify Major and minor Primary Intent violations
- Discuss what are Correctness violations and where they occur
    - Discuss how to capture a Correctness violation using the Capture section tool
    - Discuss how to document a reasoning statement in the Critique Reasoning field.
    - Identify Major and minor Primary Intent violations
- Discuss what are Correctness Tool Use violations and where they occur
    - Discuss how to capture a Correctness Tool Use violation using the Capture section tool

    - Discuss how to document a reasoning statement in the Critique Reasoning field.
    - Identify Major and minor Primary Intent violations
- Discuss what are Correctness Execution violations and where they occur
    - Discuss how to capture a Correctness Execution violation using the Capture section tool
    - Discuss how to document a reasoning statement in the Critique Reasoning field.
    - Identify Major and minor Primary Intent violations
- Discuss what are Chain of Thought violations and where they occur
    - Discuss how to capture a Chain of Thought violation using the Capture section tool
    - Discuss how to document a reasoning statement in the Critique Reasoning field.
    - Identify Major and minor Primary Intent violations
- Discuss what are Hallucinations and where they occur
    - Discuss how to capture a Hallucination violation using the Capture section tool
    - Discuss how to document a reasoning statement in the Critique Reasoning field.
    - Identify Major and minor Primary Intent violations
- Discuss what are Efficient violations and where they occur
    - Discuss how to capture an Efficient violation using the Capture section tool
    - Discuss how to document a reasoning statement in the Critique Reasoning field.
    - Identify Major and minor Primary Intent violations
- Discuss what are Citation violations and where they occur.
    - Discuss how to capture a Citation violation using the Capture section tool
    - Discuss how to document a reasoning statement in the Critique Reasoning field.
    - Identify Major and minor Primary Intent violations

Module 6: References and Map Render

- Watch the mini videos on each concept.
- Read mini PowerPoint Slides on each concept.
- Complete quizzes on each concept/section
- Complete comprehensive exams
- Discuss the two types of URLs used including in the Reference section (Map and Search)
- Discuss Reference format and style parameters
- Emphasize the importance of citing all data sources that satisfy the Query prompt.
- Ensure proper attribution.
- Discuss the purpose of the Map Render
- Discuss the Map Render format parameters

Module 7: Summary

Assessing Trainer Effectiveness

- Call on volunteers to answer questions
- Call on individuals who do not volunteer (Be friendly and explain that you will call individuals to make sure that no one is being left behind-this is to help disarm those who might be uncomfortable with public speaking).
- Several 2- to 4- minute Google Form written practice exercises.
- Graded written Google Form assessments
- Writing a Summary: Instruct participants on writing a concise summary based on the information generated by the outputs from the Trajectory section that captures the user's query, intent, and the chosen strategy.
- Describe the summary format and components including the first sentence that answers the query, avoiding verbatim violations, presenting the results in either list or table, and how to degrade gracefully and when.
- Describe how to choose whether to use a list or table to present the results.
- Discuss the format and style conventions for creating a list
- Discuss the format and style conventions for creating a table
- Discuss the format and style conventions for documenting a Map Render
- Discuss the format and style conventions for Route Render

Module 8: Advanced Techniques and Best Practices

- Error Handling and Debugging: Discuss strategies for handling potential eros during prompt rewriting.
- Testing and Refinement; Emphasize the importance of testing and iteratively improve the AI prompts..
- Best Practices: Share best practices for clear, concise, and efficient prompt rewriting for various AI applications.

Assessment and Evaluation:

- Include practical coding exercises and quizzes to assess participant comprehension throughout the training program.
- Encourage participants to work on real-world scenarios and present their final improved Python AI prompts.

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Assessing Training Effectiveness

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Additional Resources:

Provide a curated list of learning resources, such as:

- Tutorials
- Documentation
- AI related videos
- How-to videos
- How-to Guides
- Papers related to AI prompt rewriting and NLP techniques.

Remember:

- Tailor the training content and level of complexity to the specific needs and background of your audience.
- The workforce hired based on their Python fluency means that their English reading comprehension level and writing ability might not equal their coding ability. Instructional modifications might be necessary to bolster these areas.
- Consider using online collaborative tools to facilitate knowledge sharing and project development.

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