LLM PROMPT ENGINEERING TRACK

Theme: AI as a Service

Your task is to instruct the AI to adopt a specific domain of expertise. This isn't just about one-time advice; it's about turning the AI into an ongoing experienced assistant in a chosen domain. Users should be able to interact with it repeatedly and gain insights as if they were speaking to a human specialist.

This track is designed for **upper-middle and high school students who have a strong interest in exploring Prompt Engineering in a research-oriented way**. Students from all levels are welcome. However, there are no separate categories for different age groups in this track.

Submission Requirements

One Document in **PDF** Format

Including:

- **What Specific Service Your AI Provides**
  Clearly define the unique service your AI provides.
  Provide a concise description of your AI's core functionality, the challenges it addresses, and the value it brings to its users.

- **Motivation**
  Explain why you developed this AI service, mentioning what inspired its creation.

- **Link to the Chat History**
  Create a conversation that includes **at least 10 exchanged messages** between you and **the final edition** of the virtual assistant you've developed. Share a link to the conversation history like this example. Example Link

- **Iterative Prompt Development Process**
  Follow the framework for prompt engineering about Idea, Prompt, Experimental Result, and Error Analysis. This is an example of what we expect.
  Iterative Prompt Development Process Example.pdf

- **Limitation**
  Describe any limitations of your AI service, such as ethical considerations or practical issues.

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Future Development
Discuss planned advancements or improvements to address the aforementioned limitations and enhance the AI service's capabilities and performance.

Conclusion
Summarize the key points discussed in the previous sections.
Highlight the significance and potential impact of your AI service.

Reference
List all the sources, articles, books, and other resources that you have referred to while creating your AI service and writing the submission in a recognized citation style (e.g., APA, MLA, Chicago, etc.).
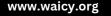
Submission Deadline: November 25, 2023, 5:00 PM ET
via the Project Submission Form. Link

RESOURCES:

OpentAI ChatGPT   https://chat.openai.com/
Google Bard AI   https://bard.google.com/chat
DeepLearning.AI   https://www.deeplearning.ai/

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Examples:

1. Basketball Shoe Sales Assistant (Main Example)

Description of Idea:

Design an AI to act as a sales assistant in a store specializing in basketball shoes. It should understand the nuances of selecting the right basketball shoe based on various factors like playing style, court type, and foot shape.

Prompt Construction:

Research Phase: Begin by searching reputable sources and grasping essential details related to basketball shoes. Understand the differences brought about by playing style, court type, foot shape, and other unique factors. Includes any online resources you are using for constructing. For this example, we are taking ideas about how to choose the right basketball shoes from this underlined blog to help generate the context and background.
How To Choose The Right Basketball Shoes | Finish Line. (2023, June 13). The Fresh Press by Finish Line. https://blog.finishline.com/how-to-choose-the-right-basketball-shoes/.
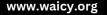
Initial Context & Background Setting: Using the gathered information, construct an initial context for the AI. This should include foundational advice on shoe selection, emphasizing factors exclusive to basketball shoes.

Test & Refine: Pretend to be a potential customer and engage with the AI. Identify areas where the assistant might falter in its recommendations or knowledge. Adjust the context and background setting based on these interactions, refining the prompts to enhance its proficiency.

Finalization: Once satisfied with the AI's performance in its specialized domain, finalize the context and background settings for optimal user interactions.

Submission:

Iterative Prompt Development Process Iterative Prompt Development Process Example.pdf
Link to the Chat History Example Link
(Same with the example in Submission Requirements)

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Examples:

2. Home Gardening Consultant

Description of Idea:

Design an AI that can act as a home gardening consultant for individuals looking to start or maintain a garden in their homes. The AI should have knowledge of plant types suitable for various climates, soil types, sunlight requirements, and potential pests or diseases that might affect them. Includes any online resources you are using for constructing. We are taking ideas about how to start or maintain a garden in their homes from this blog to help generate the context and background.

Waterworth, K. (2023, April 27). The Ultimate Guide For How To Start A Garden From Scratch. Forbes Home. https://www.forbes.com/home-improvement/lawn-care/how-to-start-a-garden/

Prompt Construction:

Research Phase: Start by exploring reputable sources about home gardening. Gain an understanding of the essential factors affecting plant growth, including climate, soil, light, water, and pests.

Initial Context & Background Setting: Using the gathered information, construct an initial context for the AI. This should include foundational advice on choosing plants based on the above factors, as well as general tips on care, pest control, and disease prevention.

Experiments: Pretend to be a potential customer and engage with the AI. Identify areas where the assistant might falter in its recommendations or knowledge. Adjust the context and background setting based on these interactions, refining the prompts to enhance its proficiency.

Finalization: Once satisfied with the AI's performance in its specialized domain, finalize the context and background settings for optimal user interactions.

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Examples:

3. Friendly Water Saver

Description of Idea:

Develop an AI named "Friendly Water Saver" that helps children and their families understand and implement water-saving tactics at home. The AI should be interactive and engaging and should provide easy-to-understand tips on water conservation in a fun manner. It can guide users on how to conduct a home water audit, suggest simple changes like fixing leaks or changing to efficient fixtures, and challenge the family with weekly water-saving goals. We are taking ideas about how to save water in the family from this underlined website page to help generate the context and background. Water Use It Wisely. (2023). *100+ Ways To Conserve Water.* Retrieved from https://wateruseitwisely.com/100-ways-to-conserve/

Prompt Construction:

Research Phase: Review resources about home water conservation techniques, focusing on strategies and tactics that are simple enough for children to understand and be engaged with. "100+ Ways To Conserve Water" could be a starting point to extract practical tips and ideas.

Initial Context & Background Setting: Embed into the AI, base knowledge about water conservation, ensuring the language and concepts are child-friendly. The AI should be able to provide quick tips and fun facts and initiate water-saving challenges suitable for families to implement.

Experiments: Interact with the AI, posing as a child or a parent interested in learning about water conservation. Ensure the tips and challenges provided are safe, practical, and engaging for young minds. The AI should encourage actions and also celebrate the achievements of the users in a positive tone.

Finalization: After assuring the AI's responses are consistently appropriate, educational, and engaging for a young audience, finalize the context and settings. The AI, "Friendly Water Saver," should be a delightful, informative companion that inspires tangible action in-home water conservation among children and their families.

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Evaluation Criteria

- Originality and innovation in the selected context.
- Clarity and relevance of the distinguished information.
- Reliability and accuracy of the resultant prompt.
- Coherence and feasibility of the projected intelligent agent interaction.

Tips:

1. Choose a specific, small daily case.

By specific, we mean:

For instance, become a "basketball shoe sales assistant" rather than a general "shoe sales assistant." Be a "home gardening consultant" instead of a broad "gardening consultant for all conditions."

By small daily, we mean:

Focus on topics like shoes and gardening rather than broader topics like "how to develop a selling strategy" or "formulating an environmental law policy."

2. Balance youthful creativity with research process

Research: Even if you possess experience and knowledge about a specific service, conducting thorough research can save you valuable time in subsequent phases of the project, such as Error Analysis. An in-depth understanding is a vital component of your project.

Creativity: you can show your different perspectives from daily life and use an innovative approach to prompt engineering that makes the agent distinctive compared to a general one.

To strike a balance, we expect you to employ a similar structure as in the example; however, we do not require you to be overly specific or to cover every turn. The purpose of this process is for you to share your creative thoughts clearly.