

Prompt Engineer for Business Analysts

| 2023 |

OVERVIEW

Discover how to master Prompt Engineering in the business environment. This specialized course for business professionals will equip you with the essential skills and knowledge to create and fine-tune prompts that generate concrete results in language processing tasks. Learn to write effective prompts, apply advanced strategies, and solve real business challenges. Upon completion, you'll be ready to optimize communication, automate responses, and make the most of Prompt Engineering in real-world situations.

PROGRAM PREREQUISITES

No prerequisites and suitable for all professional levels

PROGRAM DURATION

6 weeks

KEY OBJECTIVE

Develop in students the skills and understanding necessary to effectively use "Prompt Engineering" in real-world situations, to generate relevant and consistent results in various business applications.

KEY LEARNING POINTS	
1	Understanding Prompt Engineering Fundamentals
2	Know ethical and privacy risks
3	Create Effective Prompts
4	Explore Advanced Prompt Tuning Strategies
5	Apply Prompt Engineering in Business Use Cases
6	Evaluate Results and Continuously Improve:

Graduation Profile

Graduates of this course will be prepared to address real-world business challenges through the effective application of Prompt Engineering techniques and tools. Graduates will be aware of the ethical implications of their work and will be able to make informed decisions when implementing natural language-based solutions in their respective organizations. In short, they will be leaders in the convergence of technology and business, ready to drive significant results and improvements in their fields.

Main Skill		Skill description
1	Apply Fundamental Concepts	Understand and explain the fundamental concepts of Prompt Engineering in natural language processing. Identify the importance of the structure and function of prompts in generating coherent and relevant results.
2	Know risks and limitations	Understand the ethical and privacy implications of using large language models (LLM) and prompt engineering.
3	Create Effective Prompts	Design and write effective prompts that guide the language model towards coherent and relevant responses in various business applications. Apply contextualization, clarity and examples strategies to optimize response generation.
4	Use Advanced Tuning Strategies	Adjust parameters and prompt formats to obtain more precise and appropriate responses to business needs. Apply examples, clarification questions, and personalization strategies to refine the quality of the responses generated.
5	Apply Prompt Engineering in Business Contexts	Identify opportunities to apply Prompt Engineering in real-world situations in business areas such as customer service, marketing, and unstructured data analysis. Adapt and create specific prompts to address business challenges, generating coherent and relevant responses.
6	Evaluate and Improve Results	Evaluate the quality and consistency of the responses generated using relevant metrics. Implement continuous improvement strategies based on the evaluation of results, adjusting prompts and approaches to optimize results.
7	Analyze Business Success Stories	Analyze successful case studies in the application of Prompt Engineering to generate insights and strategies applicable to your own business scenarios. Promote creativity in generating solutions using Prompt Engineering.
8	Communicate and Collaborate Efficiently	Explain Prompt Engineering concepts and strategies clearly and effectively to both business professionals and technical colleagues. Collaborate in multidisciplinary teams to apply Prompt Engineering in comprehensive business solutions.
9	Contribute to Business Innovation	Propose and apply creative solutions based on Prompt Engineering to address challenges and opportunities in diverse business environments.

Contribute to the development of innovative strategies that use Prompt Engineering to improve decision making and business results.

Topics and content distribution

Prompt Engineering Fundamentals		
Module	Topic	Topic Objectives
1 Module 1 Fundamentals of Prompt Engineering	1 Introduction to Prompt Engineering	<p>Understand the Concept of Prompt Engineering: Upon completion of this topic, students should be able to clearly define and explain what Prompt Engineering is and how it relates to natural language processing.</p> <p>Recognize Business Relevance: Students should be able to identify and describe concrete examples of how Prompt Engineering can be applied in business situations to generate valuable and consistent results.</p> <p>Analyze Featured Use Cases: Upon completion of this topic, students should be able to analyze specific use cases in which Prompt Engineering has been successfully applied, understanding how prompts can influence the generation of results.</p> <p>Relate Prompt Engineering to the Primary Course Objective: Students should be able to connect the concepts introduced in this topic to the primary objective of the course, identifying how understanding Prompt Engineering will contribute to their ability to address real business challenges.</p>
	2 Conceptual foundations of LLMs	<p>Thoroughly understand the architecture and operation of Large Language Models (LLMs), allowing students to become familiar with their internal structure.</p> <p>Understand how ChatGPT and Bard work</p> <p>Understand the principles of LLMs and apply this knowledge to evaluate and select the appropriate model in different natural language processing tasks.</p>
	3 Structure and Function of Prompts	<p>Breaking down the Anatomy of the Prompt: Upon completion of this topic, students should be able to identify and describe the key components that make up a prompt in the context of Prompt Engineering, understanding how each element influences the generation of responses.</p>

		<p>Understand the Prompt-Response Interaction: Students should be able to explain the relationship between the prompt and the response generated by the language model, highlighting how the wording and structure of the prompt influence the quality and relevance of the output.</p> <p>Illustrate with Practical Examples in ChatGPT and Bard: By the end of this topic, students should be able to provide concrete examples that demonstrate how a well-constructed prompt in both ChatGPT and Bard can lead to more accurate and consistent results, contrasting with examples of prompts. deficient and identify the main differences between the creation of prompts in ChatGPT and Bard</p>
4	Types of Tasks in Language Processing	<p>Integrate Knowledge into Global Strategy: Upon completion of the topic, students should be able to recognize how understanding the types of tasks and corresponding prompt approaches contributes to their ability to address the main course objective in business applications.</p> <p>Explore the Diversity of Addressable Tasks: Upon completion of this topic, students should be able to list and describe different types of language processing tasks that can be addressed using Prompt Engineering, such as text generation, translation, classification, and more.</p> <p>Relate Tasks to Business Applications: Students should be able to connect each type of task with examples of business applications, illustrating how Prompt Engineering can be leveraged to solve real challenges in different sectors.</p>
4	Privacy Risks and Considerations	<p>Technological limitations: Upon completion of this topic, students should be able to generally understand the technological limitations of LLMs for prompt engineering.</p> <p>Ethical considerations and biases of LLMs: Students should recognize and mitigate biases in the results generated by prompts as well as be aware of the "hallucinations" of LLMs</p> <p>Security risks and prompt injection: Upon completion of this topic, students should be able to understand the security implications within LLMs as well as be aware of the risks of misuse of prompts.</p> <p>Data Privacy and Security: Upon completion of this topic, students should understand how to protect the privacy and security of enterprise data in the context of Prompt Engineering.</p>

Creating Effective Prompts and Advanced Prompt Tuning Strategies

Module	Topic	Topic Objectives
2 Module 2 Creation of Effective Prompts	1 Contextualization and Clarity in Prompts	<p>Understand the Importance of Contextualization: By the end of this topic, students should recognize the fundamental relevance of providing adequate context in prompts to guide the language model towards more relevant and coherent responses.</p> <p>Identify Key Contextual Elements: Students should be able to identify key contextual elements that must be included in prompts, such as relevant details, additional information, and time frames, to achieve optimal results.</p> <p>Avoid Ambiguities and Misunderstandings: Upon completion of this topic, students should be able to apply writing techniques that avoid ambiguities and misunderstandings in prompts, ensuring that the language model correctly interprets the instructions.</p> <p>Relate Clarity to Business Objectives: Students will need to understand how clarity in prompts is directly related to achieving business objectives, such as generating accurate responses to customer inquiries or creating effective content for marketing.</p>
	2 Adaptation of Styles and Tones	<p>Understand the Importance of Adaptation of Styles and Tones: At the end of this topic, students should understand how the adaptation of writing style and tone in prompts can influence the generation of responses that are more aligned with the audience and the purpose of the communication. .</p> <p>Identify Factors Requiring Adaptation: Students should be able to identify key factors requiring adaptation in prompt styles and tones, such as the intended audience, the context of the communication, and the type of task.</p> <p>Maintaining coherence in communication: Upon completion of this topic, students should be able to adapt the styles and tones of the prompts in a consistent manner, maintaining the integrity of the message and ensuring that the response generated is congruent with the established style.</p> <p>Explore Different Tones for Diversity of Results: Students should be able to experiment with different tones and writing styles in practical exercises, understanding how these variations can influence the variety of responses generated by the language model.</p>
	3 Basic strategies for prompt generation.	<p>Definition of "Zero Shot", "Few Shot" and "Chain-of-Thought" and examples: By the end of this topic, students should understand the pros and cons of each prompt generation strategy as well as their strategic use to guide the user. model toward responses that align with desired outcomes</p> <p>Practice Prompt Creation with Examples: Students should actively apply the inclusion of examples and demonstrations in practical prompt creation exercises, thus strengthening their ability to formulate effective prompts in real situations.</p>

	4	Writing Prompts for Different Tasks.	<p>Identify Specific Tasks and techniques of use in ChatGPT and Bard, Language Processing: Upon completion of this topic, students should be able to identify specific tasks, such as text generation, translation, classification, summary, among others, that can be addressed with Prompt Engineering.</p> <p>Adapt Writing to Different Tasks in both ChatGPT and Bard: Students should be able to adapt their approach to writing in prompts depending on the type of task, understanding how the structure and content of the prompt can vary to obtain optimal results in each case.</p> <p>Develop Practical Examples for Various Applications: Upon completion of this topic, students should be able to create specific prompts for various business applications, illustrating how Prompt Engineering can be used to address a variety of challenges.</p>
	5	Evaluation and Feedback in writing Prompts.	<p>Recognize the Importance of Continuous Evaluation: At the end of this topic, students should understand the critical relevance of the constant evaluation of the prompts they generate, as an essential part of the improvement and optimization process.</p> <p>Identify Effective Evaluation Criteria: Students should be able to identify and apply specific evaluation criteria for the prompts, considering aspects such as coherence, relevance, clarity and fitness for purpose.</p> <p>Collect and Analyze Results Data: Upon completion of this topic, students should be able to collect and analyze data on the results generated by different prompts, with the goal of identifying patterns and areas for improvement.</p>

Advanced Prompt Tuning Strategies and Open AI API Operation

Module	Topic	Topic Objectives
3 Module 3 Advanced Prompt Tuning Strategies	1 Setting parameters	<p>Explore Key Parameters of Prompt Engineering: Upon completion of this topic, students should be able to identify and describe the key parameters that influence the generation of responses using Prompt Engineering, such as temperature and top-k level. .</p> <p>Understand the Impact of Parameters on Results: Students will need to understand how manipulating parameters such as temperature and top-k affects the variation and consistency of responses generated by the language model.</p> <p>Adjust Parameters to Achieve Coherent Results: At the end of this</p>

		topic, students should be able to adjust the parameters strategically to obtain more coherent responses adapted to different needs and contexts.
2	Manipulation of formats and outputs	<p>Explore Format Manipulation Options: By the end of this topic, students should be familiar with different format manipulation options, such as the length of responses and the structure of generated output.</p> <p>Understand the Impact of Formats on Presentation: Students will need to understand how manipulating formats, such as brevity or length of responses, can influence the way responses are perceived and used by users.</p> <p>Adapt Formats to Different Business Contexts: Upon completion of this topic, students should be able to adapt the formats of the generated outputs to meet the specific objectives and needs of different business applications.</p> <p>Evaluate the Effectiveness of Chosen Formats: Students should be able to evaluate the effectiveness of the chosen formats based on the response generated and the purpose of the communication, adjusting and optimizing the formats as necessary.</p>
3	Advanced strategies for prompt generation	<p>Definition of "Self-consistency", "Knowledge Prompting" and "Tree of Thoughts" and examples: By the end of this topic, students should understand how the strategic use of advanced strategies helps improve the quality and relevance of the responses generated by the language model.</p> <p>Practice Prompt Creation with exercises: Students should actively apply the use of prompt strategies in practical prompt creation exercises, strengthening their ability to fine-tune the results generated in real situations.</p>
4	Refinement of Prompts for Specific Tasks Fine-tuning	<p>Understand the basic concepts of Fine-tuning in Prompt Engineering: We will explain what fine-tuning is in the context of language models and how it applies to prompts.</p> <p>Explore business use cases: We will identify common situations where fine-tuning can be beneficial for business professionals, such as content generation, virtual customer service, information extraction, among others.</p> <p>Configuring the Fine-tuning environment: We will learn how to prepare the working environment and the tools necessary to carry out fine-tuning of language models.</p> <p>Fine-tuning methods and strategies: We will explore different approaches and strategies for fine-tuning language models,</p>

			including data adaptation, hyperparameter optimization, and result evaluation.	
4	Module 4: Introduction to the Open AI API	1	What is OpenAI? and Introduction to the API	Understand the history and mission of OpenAI. Know the generative language models developed by OpenAI, such as GPT-3. Become familiar with the potential impact of artificial intelligence on society.
		2	OpenAI API Access	Register as a developer on OpenAI. Obtain an API key and configure the development environment. Know the libraries and tools necessary to interact with the API
		3	Basic use of the OpenAI API	Understand the structure of a request to the OpenAI API. Learn about common parameters, such as input text, model, and temperature. Interpret and use the responses generated by the model.
		4	Practical applications with OpenAI	Develop practical skills to use the OpenAI API in real projects. Create a basic chatbot. Generate creative text or marketing content. Explore automatic language translation.

Ethics and Legal Considerations at Prompt Engineering

Module	Topic	Topic Objectives
Module 5 Business Application of Prompt Engineering	1 Customer Service: Response Automation	<p>Recognize the Relevance of Automation in Customer Service: Upon completion of this topic, students should understand how automating customer responses can improve the efficiency and quality of customer service in various business applications.</p> <p>Identify Scenarios Conducive to Automation: Students should be able to identify specific scenarios in which automation of customer responses is appropriate, such as frequent inquiries, order processes, and shipment tracking.</p> <p>Develop Prompts for Effective Responses: Upon completion of this topic, students should be able to create effective prompts to automate responses to the customer, considering the clarity, relevance and coherence of the responses generated.</p> <p>Evaluate the Effectiveness of messages: Students should be able to evaluate the effectiveness of the response based on customer</p>

			satisfaction and adjust prompt and input strategies to achieve an effective and relevant result.
	2	Customer Service: Personalization of Responses	<p>Understand the Importance of Personalization in Customer Interaction: By the end of this topic, students should understand how personalizing responses through Prompt Engineering can improve the customer experience and strengthen the relationship with the company.</p> <p>Identify Relevant Data for Personalization: Students should be able to identify relevant data about customers that can be used to personalize the responses generated, such as preferences, purchase history, and past behaviors.</p> <p>Develop prompts for Personalized Responses: Upon completion of this topic, students should be able to develop prompts that allow the language model to generate personalized responses adapted to the individual characteristics and needs of each client.</p>
	3	Content Generation for Marketing	<p>Understand the Role of Content Generation in Marketing: Upon completion of this topic, students should understand how content generation using Prompt Engineering can be used to create effective and coherent marketing materials.</p> <p>Develop prompts for Creative Content Generation: Upon completion of this topic, students should be able to create prompts that guide the language model in the generation of creative and persuasive content, aligned with marketing objectives.</p> <p>Evaluate the Coherence and Relevance of the Generated Content: Students should be able to evaluate the coherence and relevance of the generated content based on marketing standards and adjust prompts and parameters to improve the quality of the responses.</p>
	4	Unstructured Data Analysis	<p>Understand the Importance of Unstructured Data Analysis: By the end of this topic, students should understand how Prompt Engineering can be applied to the analysis of unstructured data, such as customer reviews, online reviews, resumes, and online comments. social.</p> <p>Identify Relevant Unstructured Data Sources: Students should be able to identify specific sources of unstructured data that are relevant to their industry and business objectives.</p> <p>Develop prompts to Extract Meaningful Information: Upon completion of this topic, students should be able to develop prompts that allow the language model to extract meaningful and valuable information from unstructured data, generating insights that can be used to make informed business decisions.</p>

		5	Business success case studies	<p>Analyze Success Stories in the Application of Prompt Engineering: Upon completion of this topic, students should be able to analyze and understand real case studies in which Prompt Engineering has been successfully applied to generate relevant and coherent results in the business environment.</p> <p>Identify Key Strategies Used in Success Stories: Students should be able to identify key strategies used in successful case studies, such as prompt selection, parameter adaptation, and data integration.</p> <p>Apply Learning from Case Studies in Their Own Scenarios: Upon completion of this topic, students should be able to apply the learning obtained from the case studies to their own business scenarios and challenges, adapting Prompt Engineering strategies and approaches.</p> <p>Foster Creativity in Business Application: Students should be able to foster creativity in the application of Prompt Engineering, exploring new ways to generate relevant and consistent results based on the needs and objectives of their own industry.</p>
4	Module 4 Ethics in Prompt Engineering	1	Privacy Risks and Considerations	<p>Technological limitations: Upon completion of this topic, students should be able to generally understand the technological limitations of LLMs for prompt engineering.</p> <p>Ethical considerations and biases of LLMs: Students should recognize and mitigate biases in the results generated by prompts as well as be aware of the "hallucinations" of LLMs</p> <p>Security risks and prompt injection: Upon completion of this topic, students should be able to understand the security implications within LLMs as well as be aware of the risks of misuse of prompts.</p> <p>Data Privacy and Security: Upon completion of this topic, students should understand how to protect the privacy and security of enterprise data in the context of Prompt Engineering.</p>
		2	Ethical Aspects in the Use of Language Models	<ul style="list-style-type: none"> - Understand ethical dilemmas in automated text generation. - Identify and address bias and discrimination in the results generated.
		3	Legal Compliance at Prompt Engineering	<ul style="list-style-type: none"> - Know the laws and regulations applicable to the use of generative language models in companies. - Ensure legal compliance in Prompt Engineering applications

¡Thank you!

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