

PromptPal: Personalized Skin, Hair and Body Wellness

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Abstract: *The deployment of Large Language Models (LLMs) as components in software systems has quickly redefined the landscape for intelligent applications. For the past 65 years, AI has developed from symbolic reasoning to complex deep learning architectures that feed such sophisticated models as GPT-4.0, Claude-3, Gemini, and Mistral. Parallel to these vision-language models (VLMs), such as CLIP and ALIGN, have also broadened AI's ability to understand multimodal data. In this expanding ecosystem, timely engineering of the science of producing well-structured, contextual input becomes a key step to enhance model performance and make sense of the results.*

Yet, despite these advances, it remains challenging for non-expert users to construct successful prompts or to use multiple AI tools. This discrepancy is particularly prominent in domains as applied yet context and precision dependent, such as health and wellness. To overcome this challenge, we present PromptPal, a browser-based platform that connects user intention with the analytic capacity of LLMs. PromptPal leverages ChatGPT, Gemini, and Mistral to offer consistent answers centered around three pillars of wellness-skin, hair, and body.

The system makes use of an auto-pop-up prompt generation engine for intuitive query formulation and allows multimodal data fusion towards richer analytics. It aggregates from several LLMs to generate coherent and context-aware outputs, allowing for more reliable and accessible results. In summary, PromptPal illustrates how prompt auto-tuning and multi-model averaging can democratize the process of leveraging AI-based expert knowledge. Its application in skin, hair, and body wellness highlights a new direction for human-centered AI tools that simplify complex model interactions while delivering practical, domain-specific intelligence.

Keywords: Prompt Engineering, API Integration, Web Development, LLMs, Prompt customization

