Alphix ML Engineering Challenge: News-Responsive Ad Generation with LLMs

# Overview

At Alphix, we work with some of the world’s leading asset management firms to help them communicate complex investment insights more clearly, effectively, and in tune with the market. We believe Large Language Models (LLMs) are increasingly unlocking new creative possibilities in how we connect marketing narratives to what’s happening in the world.

In this challenge, we’d like you to explore how we might use LLMs to generate context-aware ad creative, ads that reflect both a client’s message and the current news cycle, with the goal of producing more timely and resonant marketing assets.

# Your Task

Design and present a technical approach (and optional working prototype) for an LLM-powered tool that:

- Takes a client landing page URL as input (e.g. an investment view or market commentary – examples provided in the accompanying Excel doc)  
- Consumes a small set of relevant news headlines or article summaries (examples provided in the accompanying Excel doc)  
- Generates ad copy and imagery suggestions for several digital ad formats (e.g. LinkedIn single image, banner, carousel, display creative etc)

The output should demonstrate how the ad concept links the client’s message with themes or developments from the news cycle. You are free to propose how this is structured or visualised.

# What You Can Use

- Any LLMs or image generation tools you prefer (e.g. GPT-4, Claude, DALL·E, Midjourney)  
- Any data ingestion or retrieval technique (e.g. scraping, manual inputs, vector search)  
- Your own framework, prompt engineering strategy, or RAG pipeline  
- Any public or synthetic asset management landing pages and financial news sources (we’ll provide some examples to get you started)

- Any other data sources you think will improve the LLM output

# What We’re Looking For

This is an open-ended brief, and we’re excited to see how you approach it from a product-thinking, ML design, and execution standpoint.

We’re especially interested in:  
- How you interpret the problem and prioritise user value  
- How you extract meaning from landing pages and news articles  
- How well your LLM or prompting strategy aligns tone, compliance, and creativity  
- Your choice of tools, architecture, and justification  
- Bonus: Ideas on how to evaluate quality and relevance at scale

# Deliverables

- A short write-up or presentation (max ~6 pages/slides) outlining your approach  
- (Optional) A prototype, GitHub repo, or demonstration of outputs  
- A 15–20 minute walkthrough followed by discussion with the Alphix team

# Timeline

- You’ll have 7 days to prepare your solution  
- We'll schedule a final discussion shortly after to review and explore your thinking together

# Context on Clients

Our clients are typically global asset managers or institutional investment firms who operate in regulated, information-heavy environments. They care about clarity, credibility, and timeliness. Content tone must often balance authority with accessibility, and align with compliance expectations.

# Questions?

If you have any questions during the week or hit blockers, don’t hesitate to reach out. This is not a closed-book exercise, we’re interested in how you think, not just what you deliver.

# Client URL examples:

**State Street Investment Managers**

URL - <https://www.ssga.com/uk/en_gb/institutional/capabilities/esg>

Related news articles: See Excel

**PIMCO**

URL - <https://www.pimco.com/us/en/insights/fed-policymakers-split-decision>

Related news articles: See Excel

**T. Rowe Price**

URL - <https://www.troweprice.com/financial-intermediary/uk/en/lp/global-market-outlook.html>

Related news articles: See Excel