Product Manager's Note

The team worked very hard on this project, and we are very proud of the final product. I want to ensure that we all receive due credit as a team: Eshaan Arora, Soham Bidyadhar, Albert Nguyen, Kimberly Simmonds, and Isha Verma.

In the high-stakes world of financial risk management, leadership teams often face data paralysis, which is the inability to quickly synthesize massive, disparate datasets into actionable strategies. Our goal with this project was to move beyond simple data retrieval and build a system that delivers immediate strategic insight. A key challenge was the quality and consistency of our data sources, so we managed the transition from an initial, incomplete metadata set to a comprehensive integration of over 1,000 risk drivers.

To ensure this system could scale, I made the strategic decision to move from in-memory storage to Chroma DB, enabling efficient semantic retrieval across a growing knowledge base .

During the prototyping phase, I identified a critical user-experience failure where the LLM would occasionally hallucinate risk factors not present in the master list. Rather than accepting this, I iterated on the architecture by implementing chat history and rerankers . By using reciprocal rank fusion, I was able to prioritize the most relevant documents, significantly increasing the reliability of the system. The final product achieved a 92% response accuracy rate and transformed the user experience from a manual query process into a conversational insight engine that provides human-readable summaries. This allowed leadership to identify risk drivers and simulate stress-test scenarios in real-time.