Price Researcher Optimised for Friends

39th Voorburg Group Meeting on Services Statistics

22-26 Sep 2025

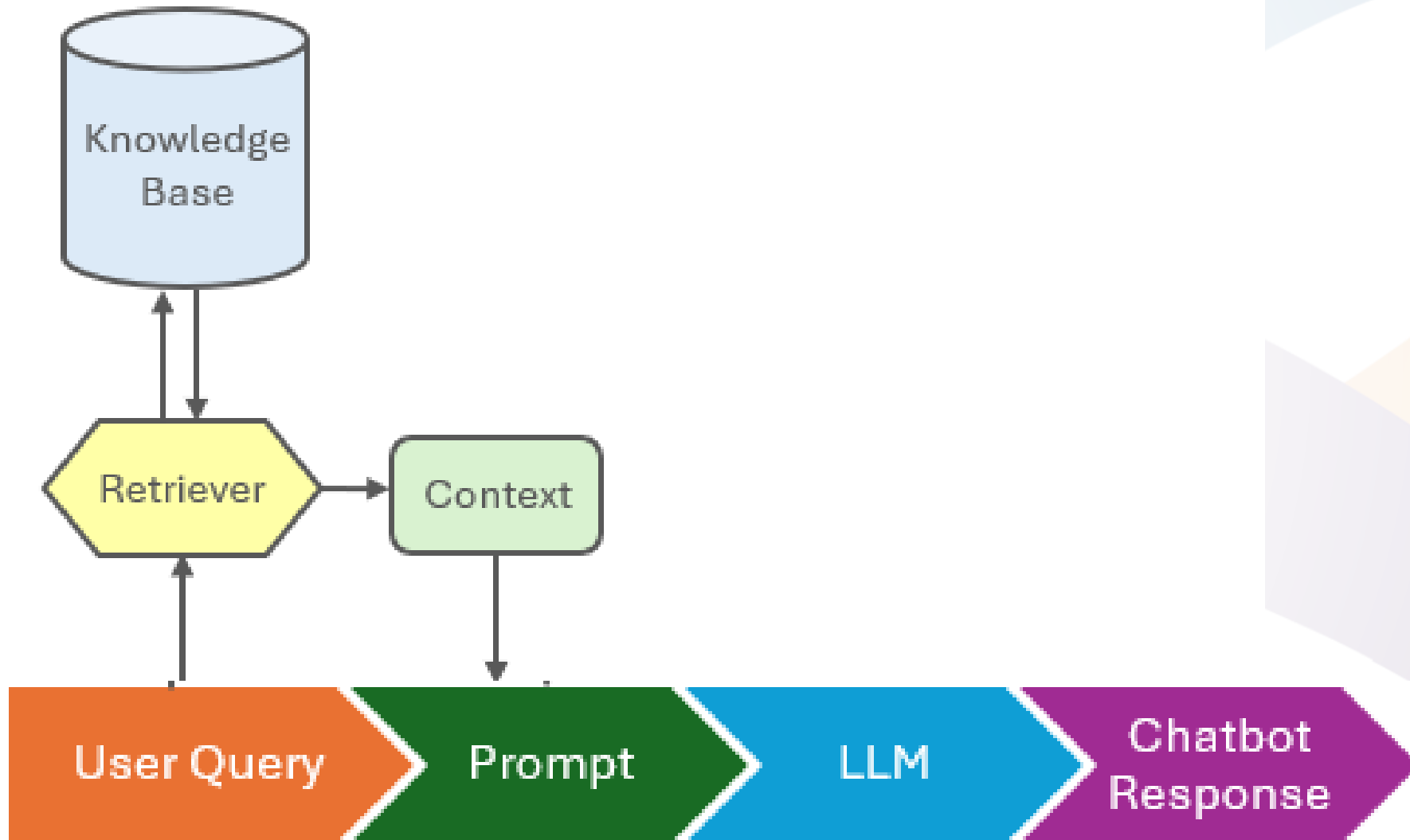Singapore Department of Statistics (DOS)

Problem Statement

Voorburg Group on Service Statistics Papers (2005-present)

Filter items [   ]   Showing 1 to 10 of 1,644 entries | Show [10 ∨] entries

Year ↑↓	Location ↑↓	Format ↑↓	Title ↑↓	ISIC Section ↑↓	2 digit ISIC Division ↑↓	Author ↑↓	Type ↑↓	Theme ↑↓	Topic ↑↓
2022	Ottawa	Video	Welcome Remarks by Statistics Canada	NA	NA	Arora, Anil	Welcome remarks	Other	General
2022	Ottawa	Paper	The Value of Imports and Exports of Trade in Goods and Services between Countries (Trade Asymmetries)	Cross cutting	Cross cutting	Jeremy, John	Cross cutting	Prices	Trade in services
2022	Ottawa	Presentation	Call for collaboration: Trade asymmetries research and Trade deflator research	Cross cutting	Cross cutting	Jeremy, John	Cross cutting	Prices	Trade in services
2022	Ottawa	Paper	Singapore's Experience in Developing Online Marketplaces SPPI	Cross cutting	Cross cutting	Boey, Edwin	Cross cutting	Output and Price	E-Commerce

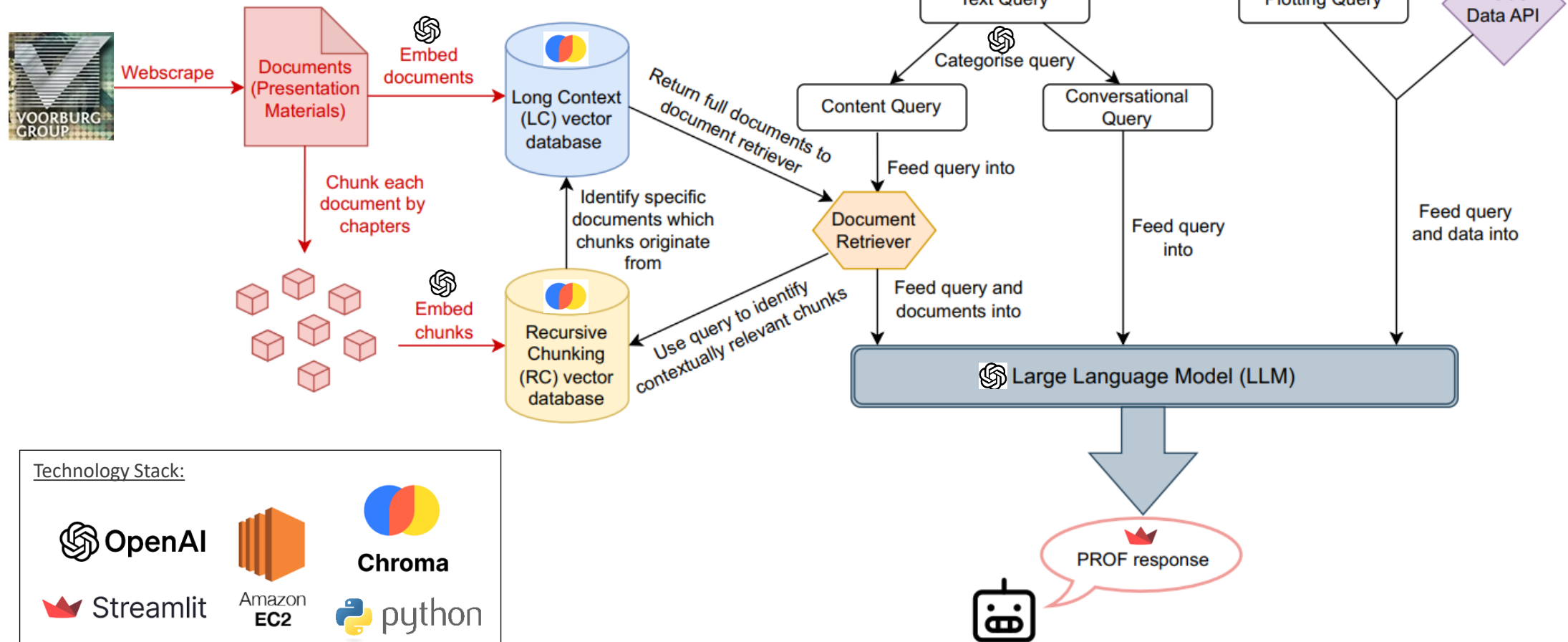# Introduction to RAG Chatbots Powered by LLM

PROF Architecture

Legend:

Red font denotes knowledge base preparation processes which occur on a one-off basis

Black font denotes query processes which occur every time a user query is sent to PROF

Technology Stack:
OpenAI | Chroma | Streamlit | Amazon EC2 | python

VOORBURG GROUP

Webscrape → Documents (Presentation Materials) → Embed documents → Long Context (LC) vector database

Chunk each document by chapters

Embed chunks → Recursive Chunking (RC) vector database

Identify specific documents which chunks originate from

Return full documents to document retriever

Use query to identify contextually relevant chunks

Document Retriever

User query → Rewrite query for clarity → Re-written query → Categorise query

Text Query / Plotting Query

NSOs Data API

Categorise query

Content Query / Conversational Query

Feed query into

Feed query and documents into

Feed query into

Feed query and data into

Large Language Model (LLM)

PROF response

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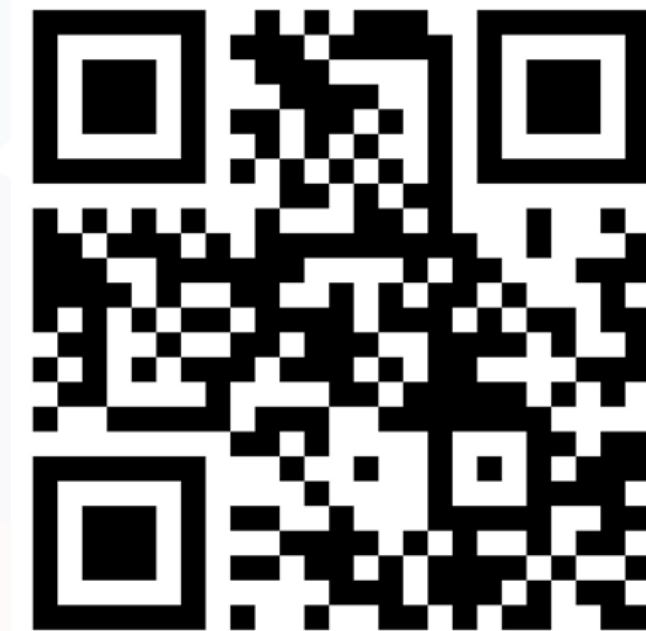
Learning Points and Future Plans

- As price statisticians, the team was new to GenAI and had put in considerable resources to develop the prototype in-house. Advances in technology and LLM capabilities provided both opportunities and obstacles to the learning process.

- Currently, PROF can be accessed at the following link http://13.229.119.3:8501 or by scanning the QR code. We welcome interested statisticians to try out the chatbot and provide your feedback and suggestions for improvements via the survey form on the website.

- As PROF is still a prototype and there might be frequent updates to the application, interested statisticians are welcomed to approach the team for the latest website link for access on a need to basis. Any intention to collaborate on the chatbot further is also appreciated.

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Contact Details

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Thank You

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