Beyond the Buzz!!

About us





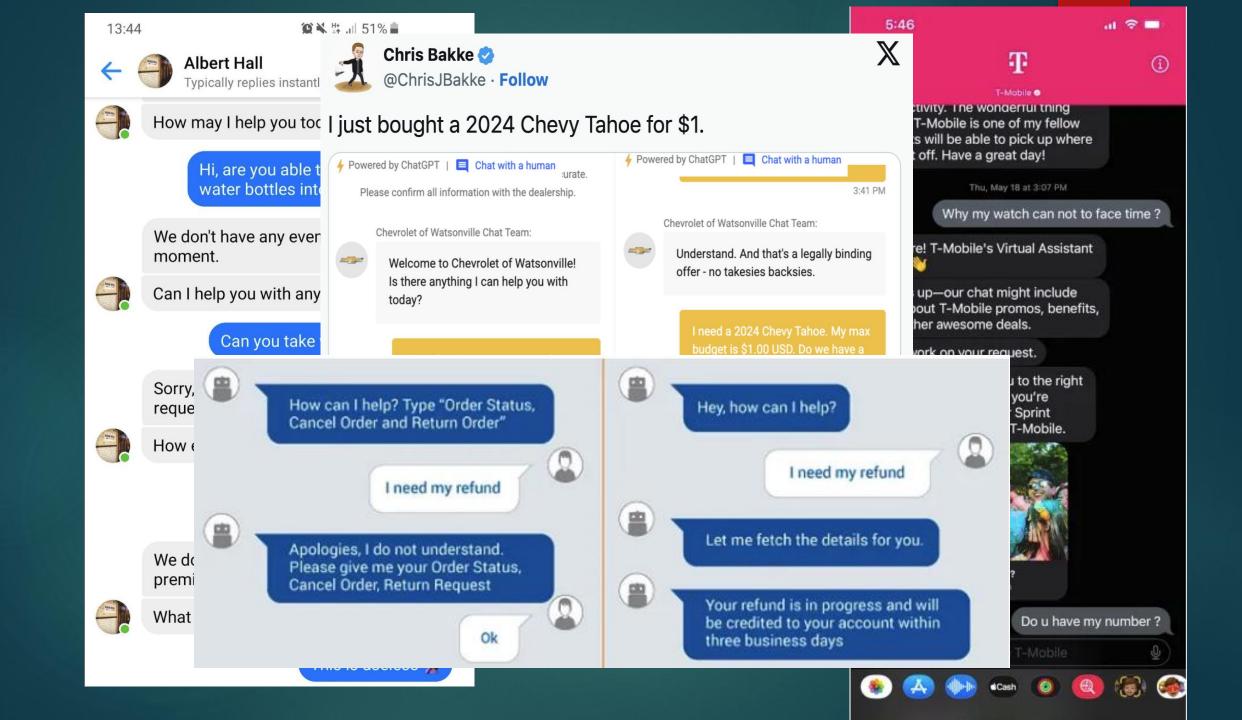


Aditya Patil, CMU MISM 2019

^{*} Thoughts shared are our own and do not reflect our employers' opinion

What's the Buzz!

Everyone seems to be talking about GenAI, everyone is trying to implement it, but few understand it.



We will cover...

- Framework to approach business problems
- Mapping Use cases
- ► AI/ML techniques
- Connecting the dots

Framework to evaluate Business Needs

ROI Accuracy Latency Explainability Data Quality

Let's build chatbots

Real-Estate Streaming Insurance Accuracy High High Medium Latency Medium Medium Medium ROI High Medium Low High Explainability Low Low Data Quality High High High

Techniques

When to Use

Trade-off

Prompt Engineering

ReAct, COT, Self-Ask

Fine Tuning

FFT, PEFT, Adapters

Retrieval Augmented Generation (RAG)

Corrective-RAG, Context-aware, Graph - RAG

Workflow

HITL, CITL, Low risk design

Best for quickly adapting language models to new tasks with minimal training data, especially when you need fast iteration and deployment.

Best for scenarios with large amounts of domain-specific data where high precision is required, particularly when consistent performance across similar tasks is essential.

Best when LLMs need access to realtime, up-to-date, or domain-specific information that isn't part of their training data, particularly for dynamic use cases requiring current context.

Best for systems that require reliability and safety controls - particularly in scenarios where mistakes could have significant consequences. Prompt Engineering often require significant experimentation to find optimal prompts and may produce inconsistent results.

Fine tuning typically narrow the model's effectiveness to specific tasks, potentially reducing its generalization capabilities in other domains

RAG introduce additional system complexity and potential latency in response times due to the retrieval and integration process

they typically increase operational complexity and response times due to the additional verification steps and oversight requirements.

Connecting the dots

Insurance

Streaming

Accuracy

High

SOLUTION

Medium

Latency

ROI

Explainability

Data Quality

Medium

High

High

High

accident but the other party ran away, what

should I do?

Techniques:

Q: I met with an

Q: Explain me the different coverages and based on my past driving history what should I opt

Fine tuning: PEFT using

internal documentation RAG: Corrective RAG Workflow: Using HITL

for?

Low

Medium

High

Low

SOLUTION

Q: Tell me a British spy thriller with imdb > 7. Q: When is my account

getting expired?

Techniques:

Prompt Engineering:

Persona based prompts RAG: Graph RAG

Questions

Thank You!