**A. Please provide specific examples demonstrating how the Fractalite has exhibited the following skills:**

**1. Owns technical strategy and solutioning**

Solutioning end-to-end technical strategy for Verizon’s conversational AI, addressing **650+ overlapping intents** and severe data imbalance.

* Developed an **Agentic RAG chatbot** (LangChain + Agno + Qdrant) for scalable, accurate, and real-time query resolution across structured and unstructured data.
* Implemented **text-to-SQL capabilities** to handle complex multi-table queries, generate follow-up questions, summaries, and SQL query explanations.
* Introduced a **BERT-based hierarchical classification model** with a **multi-label approach**, outperforming flat classification.
* Built a **custom stopword model** aligned with Verizon’s taxonomy instead of relying on generic pre-built ones which yield better model performance in crucial overlapping intent scenarios.
* Designed a **custom sequential chunking pipeline** to enrich training context and significantly improve performance.
* Applied **unsupervised topic identification and intent mapping** to discover new topics/Intent from large call volume datasets.

**2. Evaluates and drives adoption of tools/frameworks**Researched and evaluated multiple open-source LLMs, orchestration frameworks, memory cache options, and data validators to build an Agentic RAG chatbot pipeline tailored for Verizon environment.

* Hands-on exploration and benchmarking of PgVector, ChromaDB, FAISS, Qdrant, Apache Cassandra, Pinecone, and Elasticsearch to identify the most commercially and technically viable vector database solution available.
* After assessing orchestration frameworks, implemented the Agno framework with QdrantDB, enabling real-time conversational AI for Verizon’s website data across structured (plans, subscriptions) which contains monthly subscriptions and other telecall data related plan and (like Privacy, Terms and conditions , other policies) sources which is of type raw text.
* Also designed a session-aware pipeline with metadata-linked chat history, ensuring personalized, continuous conversations aligned with Verizon’s customer experience goals.
* Rapidly built and demoed a working Agentic AI prototype, showcasing feasibility and impact; the solution received client approval for adoption for initial quick POC, accelerating capability building.

**Provides technical consulting**

* Provided consulting and worked on Text-to-SQL complex prompt ,workflows, introducing guardrails to ensure SQL queries were restricted to valid tables, improving reliability and safety.
* Suggested website-to-graph knowledge base conversion strategy, including HTML-to-structured data extraction via web scraping, chunking, LLM-based prompt optimization, and schema enforcement with Pydantic for graph storage.
* Advised Verizon on limitations of the Flat SLM model, highlighting underperformance with multi-intent utterances, overlapping words, and lack of contextual depth.
* Proposed and guided implementation of multi-label classification approach to handle utterances carrying multiple intents.
* Recommended and delivered a BERT-based hierarchical classification approach, addressing poor prediction from flat models with hundreds of intents.
* Designed and implemented a sequential chunking pipeline (custom stopwords model, NER-based chunking, and intent-vector chunking), improving context capture and classification accuracy.

**4. Leads capability building**

* **Co-authored a Fractal newslette**r case study on ***Intelligent Plan Selection System for Telecom Providers* and *Agentic AI workflows*** *enhanced by Graph-based Retrieval (Neo4j)*, making the Verizon solution a learning template for the wider audience.
* Designed **reusable sequential chunking pipeline** components (custom stopwords, NER, intent vector logic) while solving Verizon’s multi-intent classification challenge, which were later standardized for reuse in other conversational AI projects saving around 20-30% of development time.
* Built modular Text-to-SQL guardrail workflows during Verizon’s NLQ solution, ensuring safe query generation — these guardrails are now reusable across other structured data tasks.
* Mentored and given KT for senior leadership team and peers on hierarchical classification design, RAG workflows, and vector DB evaluations.

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### **5. Contributes hands-on to design and delivery of high-impact code and assets, setting quality benchmarks**

* Demonstrated Agentic RAG chatbot modules that efficiently responds to user natural questions with relevant information from extensive website content, with consideration **plans to enhance the solution using GraphDB** forimproved knowledge management.
* Built end-to-end **SQL prompt generation pipelines** with dynamic guardrails, ensuring safe and accurate Text-to-SQL outputs for real-time user queries.
* Created modular sequential **chunking, custom built verizon stopwords model, and intent-vector components** that not only solved Verizon’s immediate multi-intent challenge but set **quality benchmarks** for future conversational AI deployments of similar task/project.

### **6. Drives thought leadership by authoring white papers, representing Fractal in industry forums, and conducting deep research to anticipate technology trends and shape the organization’s technical point of view**

* Conducted research on **emerging LLM orchestration frameworks, memory-enhanced conversational pipelines, and semantic retrieval approaches**, influencing internal roadmap for next-gen AI solutions.
* Proposed forward-looking strategies for **metadata-driven, session-aware AI interactions** to improve user engagement and personalization across large-scale enterprise systems.
* Advocated adoption of **hybrid vector search + graph-based knowledge bases** as a standard for high-accuracy conversational AI.

**B. Describe how the Fractalite has displayed Fractal behaviours? Give specific examples**

**Answer:**

**Leadership Principles:**

* Demonstrated strong client focus by delivering high-impact conversational Agentic AI solutions for Verizon, handling 650+ overlapping intents and improving query resolution efficiency.
* Earning a **consistent client leadership NPS score of 9**.
* Built strong relationships with client teams, actively seeking feedback and ensuring expectations were met or exceeded to have smooth client engagements and Trust.
* Organized sessions interactively , created documentation, and simplified complex ideas for non-technical stakeholders for every task performed.
* Took ownership not only of my deliverables but also ensured team continuity and client satisfaction during peers’ PTOs or unexpected absences.

**Strategic & Business Acumen:**

* Exhibited strategic thinking by designing end-to-end Agentic AI solutions aligned with Verizon’s objectives and Fractal’s AEDD approach, including modular pipelines and hierarchical classification models that were later reused for related projects.
* Helped define business goals and prioritized initiatives that directly maximized client value, such as implementing multi-label classification to handle overlapping intents efficiently.
* Suggested workflow improvements and reusable templates, like sequential chunking components and Text-to-SQL guardrails, which reduced errors by 20% in response and accelerated delivery.
* Made commercially informed decisions on tools and frameworks (Qdrant, Agno, GraphDB) to balance technical efficiency with budget, timelines, and overall client value.

**The Ideal Team Player:**

* Proactively acquired client business context, domain knowledge, and emerging trends, applying these insights to project execution—for example, highlighting the importance of the ‘disconnect’ keyword in telecom, distinguishing between account disconnection and plan cancellation scenarios which had more business value.
* Completed all required compliance and data security training, ensuring adherence to organizational and client standards, while guiding peers on best practices for handling sensitive data.
* Worked seamlessly with cross-functional teams, respecting diverse viewpoints and expertise across domains in the Verizon environment.
* Anticipated potential challenges by designing Text-to-SQL guardrails and a custom stopwords model, enhancing accuracy and safety in query outputs.