Take-Home Assignment: Strategic Planning for Fraud Detection Innovation

Context:

You are about to join a Property & Casualty insurance company as a Data Scientist within the Enterprise Fraud Analytics & Intelligence team. The team is relatively new and is in the early stages of building a strong, scalable fraud detection function.

The vision is to reimagine how fraud is detected across the insurance lifecycle by leveraging advanced analytics, machine learning, and AI. The priorities are increasing accuracy, speed of detection, and operational efficiency — while ensuring collaboration with investigative, underwriting, and claims teams.

Your Assignment:

Please respond with a brief strategic memo covering the following:

1. Your Strategic Approach

- How would you approach understanding the current state of fraud analytics at the company?
- What guiding principles or methodology would shape your approach to innovation in fraud detection?
- How would you balance exploration (R&D) with execution (impact delivery)?

2.Your 60-120-180 Day Plan

Please outline what you would prioritize in each of the following phases:

- First 60 Days – Learning and Landscape Assessment
  What data, tools, people, or processes would you want access to? What questions would you ask? What quick wins (if any) would you seek?
- Next 60 Days (Days 61–120) – Experimentation and Value Validation
  What hypotheses or PoCs would you explore? How would you evaluate success? Who would you work with across the organization?
- Final 60 Days (Days 121–180) – Scaling and Strategic Positioning
  How would you help scale your learnings or models? What would you want to operationalize or hand off? How would you embed yourself as a long-term asset in the fraud team?

3.Technology, Tools, and Technique

- Given current advancements in AI/ML, what technologies or modeling techniques would you apply to fraud detection today and why?
- How would you use structured vs unstructured data?
- If you had to build a fraud model or scoring system from scratch, how would you approach it?

4.Optional: Innovation Suggestion

If you could introduce one innovative concept or capability (a tool, model, data source, or cross-functional idea) to enhance fraud detection in our organization, what would it be? Why?

Expectations:

- This assignment is not timed, but it should reflect thoughtful and strategic thinking.
- You are not required to write code — this is about approach, prioritization, and problem-solving.
- Use bullet points or visuals if it helps you communicate clearly.