Add to "Overall Solution" Section:

Why MedGemma 1.5 4B? We chose the MedGemma 1.5 4B variant specifically for its high performance-to-size ratio on medical text. In our testing, it significantly outperformed general-purpose 2B/7B models in extracting structured medical orders and normalizing symptoms from messy, conversational user logs. It serves as the primary "Agent" for both de-identification and clinical summarization.

Add to "Technical Details" Section:

Edge Optimization & Feasibility To ensure SELENE runs on consumer-grade hardware (standard laptops/mobile), we implement the following:

- **Quantization:** Utilizing 4-bit NormalFloat (NF4) quantization to reduce model weight size, allowing the engine to run on <4GB of VRAM.
- **On-Device Vector Store:** We utilize ChromaDB (or local JSON-indexed files) for the retrieval-augmented generation (RAG) component, ensuring no external database connection is required.
- **Privacy Guardrail:** Before any data is even considered for the "Research Bridge," an Agentic Workflow triggers a MedGemma-led scrubbing pass that identifies and redacts 18 types of PII (Names, Locations, IDs).

Add to "Product Experience" Section:

The Doctor's Brief A core output of SELENE is the "Doctor's Brief"—a one-page Markdown summary that organizes 30 days of longitudinal data into clinical clusters (Vasomotor, Neuropsychiatric, etc.). This addresses the 15-minute appointment constraint by giving providers a high-fidelity data snapshot immediately.