The Complete AI Pipeline

A deep dive into the architecture powering **Fiona**, Snappi's AI Financial Friend.

5-Stage Architecture Overview

1. FinBERT

Analyzes sentiment & stress levels from user input.

2. FRI Engine

Calculates resilience scores (Buffer, Stability, Momentum).

3. Context

Integrates Macro-economics & RAG Case Studies.

4. LLM Generation

Synthesizes data into empathetic, actionable advice.

Step 1: The Analyzer

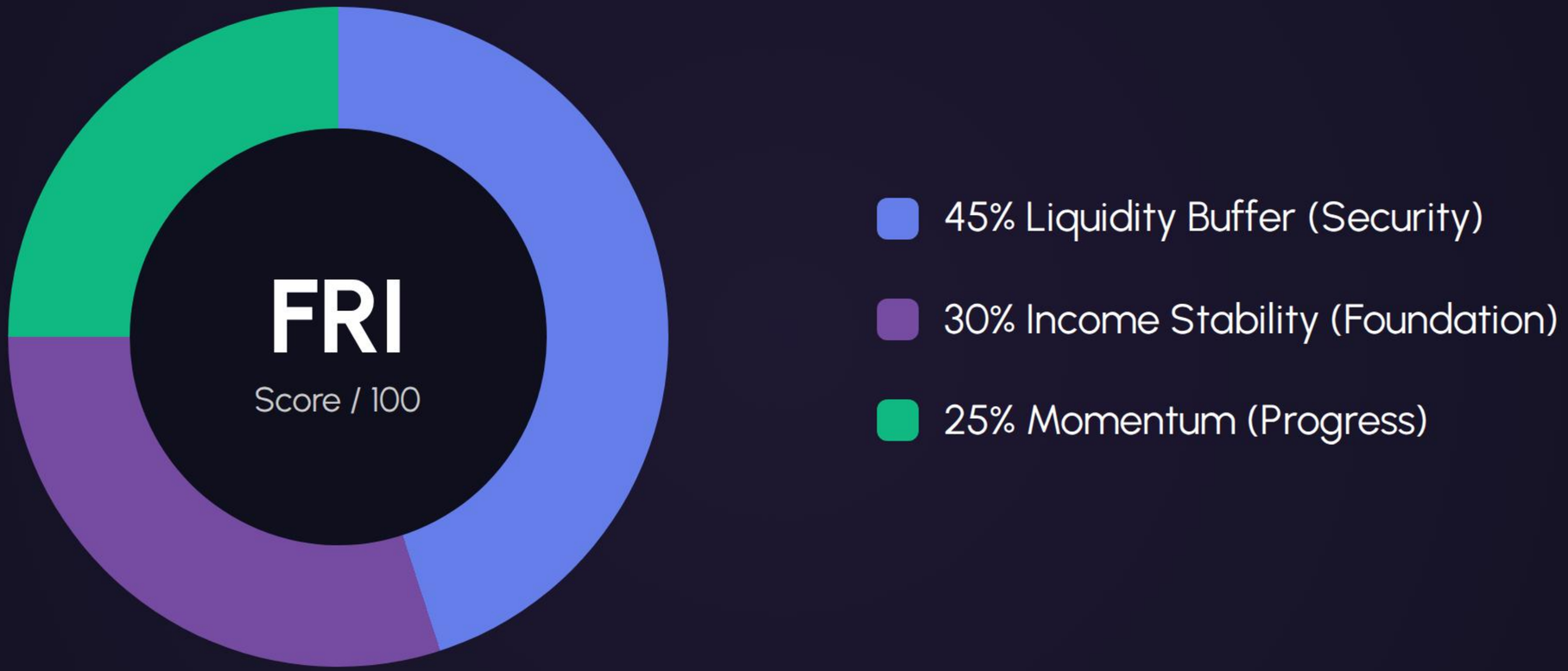
FinBERT Technology

Before any advice is given, the system must *understand*.

FinBERT is a specialized financial language model that runs locally to detect:

- **Sentiment:** Is the user anxious or confident?
- **Stress:** Identifying high-pressure triggers.
- **Urgency:** Prioritizing critical financial needs.

Step 2: Financial Resilience Index (FRI)



$$FRI = 0.45 \times Buffer + 0.30 \times Stability + 0.25 \times Momentum$$

Step 3 & 4: Contextual Intelligence

Macro-Economics

Advice cannot exist in a vacuum. Fiona ingests real-time economic indicators to ensure relevance.

- Inflation Rates
- Interest Trends
- Market Volatility

RAG System

Retrieval-Augmented Generation searches a secure database of "Similar Cases" to find proven solutions.

- Pattern Matching
- Success Stories
- Historical Data

Step 5: Generative Personalization

The LLM "Friend"

This is the final synthesis layer. The Large Language Model acts as the empathetic voice of the system.

It combines the **Emotional Context** (from FinBERT), the **Financial Facts** (from FRI), and the **World Knowledge** (from Macros/RAG) to generate a response that feels human.

> *"Your income varies 300% - let's smooth it out to reduce your stress."*

Performance at Scale

2.5s

Total Processing Time

Real-Time Intelligence

Fiona delivers complex financial psychology analysis in the blink of an eye.

89%
Accuracy Rate

100%
Personalization

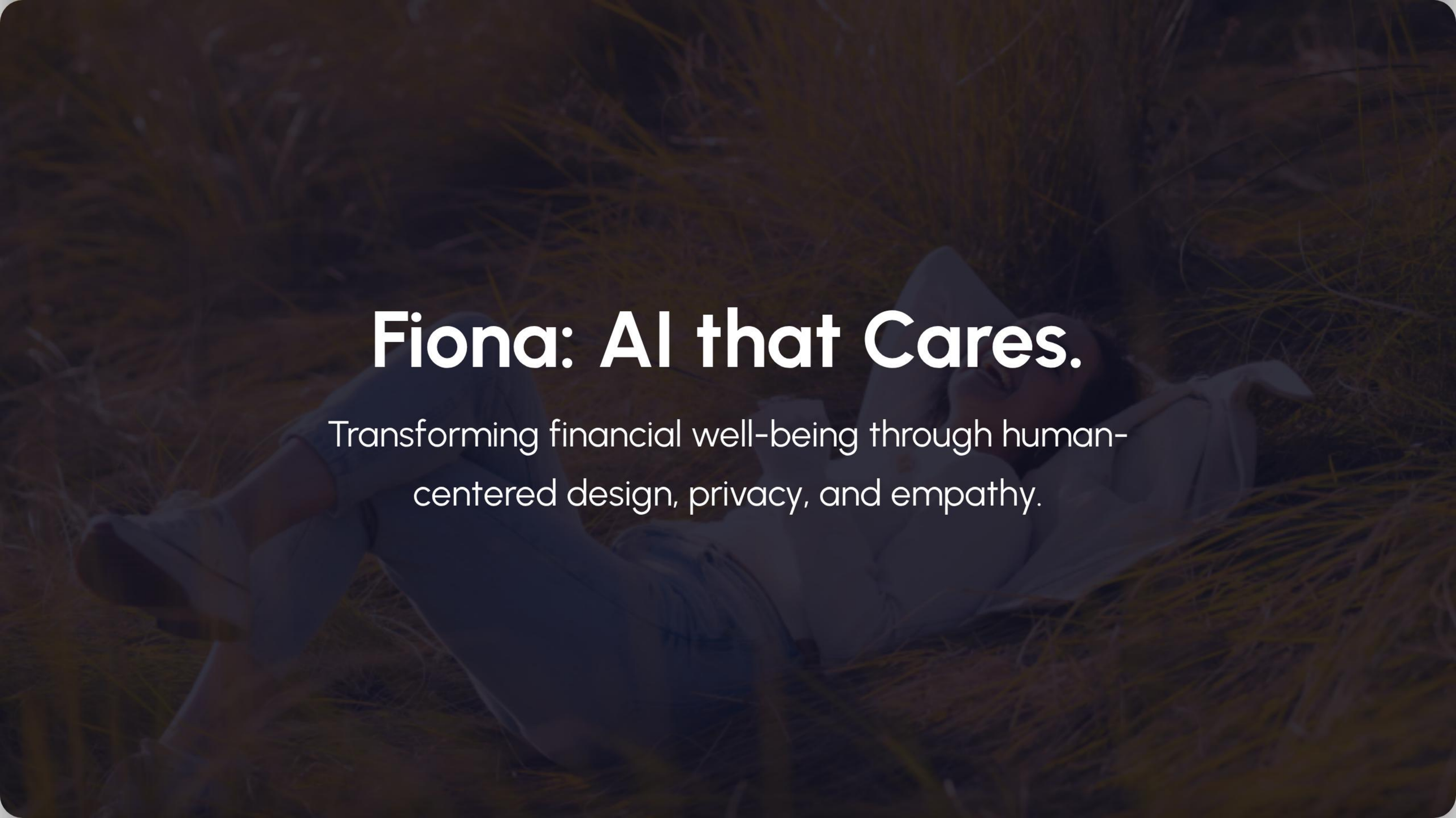
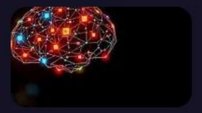

Fiona: AI that Cares.
Transforming financial well-being through human-centered design, privacy, and empathy.

Image Sources



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