🎯 What Your Solution Must Do

🎯 Solution Requirements

Your system must produce **three core outputs**:

1️⃣ Context-Aware Anomaly Detection

Your model should:

- Compare a person **against their own historical baseline**
- Detect unusual changes over time
- Consider major life events (e.g., job loss, retirement, divorce, stress)
- Identify early “weak signals” before serious health decline

👉 The focus is *personalized change detection*, not population comparison.

2️⃣ Risk Scoring + Risk Category

Your system must generate:

🔢 A Risk Score

- Numerical value (e.g., 0–100)
- Reflects probability or intensity of potential risk

🏷️ A Risk Category

Example categories:

- 🫀 Cardiovascular Risk
- 🍬 Metabolic Risk
- 🧠 Psycho-emotional Risk

Example Output:

> Risk Score: 68/100
> Category: Metabolic Risk (Moderate)

3️⃣ Safe & Empathetic Follow-Up Question

Your system must generate a question that:

✔ Gathers more context
✔ Sounds supportive and human
✔ Avoids medical diagnosis
✔ Avoids prescribing treatment

❌ Not allowed:

> "You may have depression."

✅ Better approach:

> "We noticed some changes in your recent health responses. Have there been any new stresses or lifestyle changes you'd like to share?"

🧠 In Summary

Your prototype should:

1. Detect personalized anomalies
2. Assign meaningful risk levels
3. Communicate safely and empathetically

Not just a model — but a responsible, human-centered AI system.

1️⃣ Context-Aware Anomaly Detection

Detect unusual changes in a person's health **compared to their own baseline** (not compared to others).

✔ Track changes over time
✔ Consider life events (job loss, retirement, divorce, etc.)
✔ Identify "weak signals" before major health decline

Example:
If someone's depression score slowly increases over 3 waves → flag it as a potential concern.

2️⃣ Risk Scoring + Risk Category

Your system must:

🔢 Generate a Risk Score

A numeric value (e.g., 0–100)

🏷️ Assign a Risk Category

Such as:

- 🫀 Cardiovascular Risk
- 🍬 Metabolic Risk
- 🧠 Psycho-emotional Risk

Example Output:

> Risk Score: 72/100
> Category: Psycho-emotional risk (moderate-high)

3️⃣ Safe & Empathetic Follow-Up Question

You must generate a follow-up question that:

✔ Gathers more context
✔ Sounds supportive
✔ Does NOT diagnose
✔ Does NOT prescribe treatment

❌ Avoid: "You may have depression."
✅ Instead:

> "We noticed some changes in how you've rated your mood recently. Would you like to share if anything stressful has been happening in your life?"

📦 What You Must Submit

1️⃣ Working Prototype

- Jupyter Notebook OR
- Web service (e.g., Streamlit, Flask, FastAPI)

It should demonstrate:

- Data processing
- Anomaly detection
- Risk scoring
- Follow-up question generation

2️⃣ GitHub Repository

Must include:

- Source code
- README (clear explanation of approach)
- Setup instructions
- Open-source compliance (80%+ public code)

3️⃣ Short Team Presentation

Brief pitch format (5 minutes):

1. Problem
2. Dataset used
3. Approach
4. Demo
5. Impact

⚖️ Rules & Safety

🚫 No Diagnosing

Do NOT:

- Declare that someone has a disease
- Predict exact medical outcomes
- Recommend treatments

This is an ethics requirement.

🌍 Open Source Rule

At least **80% of your code must be publicly available.**

🧠 In One Sentence

You are building:

> A longitudinal health monitoring system that detects personal changes, assigns risk levels, and asks safe, human-centered follow-up questions.

🤝 Our partners

- AltaIR Capital
- Harbour.Space
- Nebius

If you have any questions, feel free to reach out to us at n.bogachev@altair.vc