## What this recommendation system does

This service **intelligently recommends funding foundations** to a charity or a specific project. It doesn't rely on simple filters alone — it combines **AI understanding, relevance scoring, and user behaviour** to rank the best matches.

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## 1. AI-based semantic matching (core of the system)

We use **AI embeddings** to understand *meaning*, not just keywords.

- We convert a charity or project's:
  - Mission & vision
  - Programs & services
  - Target population
  - Focus areas
  - Geographic coverage
- into a numerical "embedding".
- Each foundation already has its own embedding.
- We then calculate **semantic similarity** between them.

👉 This allows matches like *"youth education"* ↔ *"child development programs"* even if the wording is different.

This contributes **55% of the final score**.

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## 2. Domain relevance scoring (what the charity does)

We check how well the foundation aligns with:

- The charity's **focus areas**
- The **target population** it serves

Scoring:

- Strong overlap → high score
- Partial overlap → medium score
- Weak overlap → lower score

This contributes **20% of the score**.

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## 3. Geographic alignment

Foundations are scored based on how well their funding regions match the charity/project:

- Same locality → highest score
- Same country → medium
- Same region → lower
- No overlap → minimal

This contributes **15% of the score**.

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## 4. User-selected filter boost (optional)

If the user applies filters (e.g. country or region), we:

- **Boost matching foundations**
- **Do not exclude others**

This ensures discovery isn't limited too early.

This contributes **10% of the score**.

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## 5. Final ranking logic

All scores are combined into a **single final score**:

- Semantic match
- Domain relevance
- Geographic match
- Filter boost

Foundations are then:

- Sorted from best to worst
- Limited to the user's configured recommendation count

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## 6. Progress & engagement awareness

The system also tracks:

- Whether the charity has submitted:
    - CFS documents
    - LOIs
- Whether a foundation is:
    - Liked
    - Disliked (disliked foundations are excluded)
- Application progress status (0%, 50%, 100%)

This makes recommendations **context-aware**, not static.

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## 7. What the user gets

For each recommended foundation, the user sees:

- A ranked list of best-fit funders
- A **similarity percentage** (easy to understand)
- Whether they've already interacted with the foundation
- Progress indicators for applications

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## In simple terms

> "This system uses AI to understand what your charity actually does, compares it against what foundations fund, scores each foundation across relevance and geography, and then ranks the best matches — learning from your actions as you go."

[ Charity / Project Info ]

(Mission, Programs, Location)

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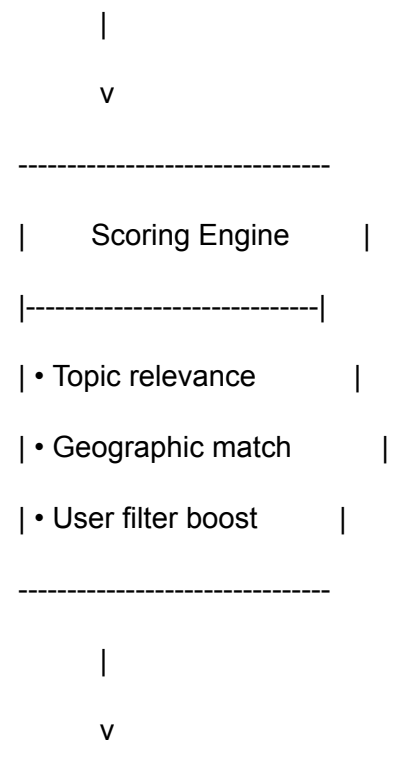
[ AI Understanding ]

(Meaning, not keywords)


Scoring Engine
• Topic relevance
• Geographic match
• User filter boost
[ Behaviour Awareness ]
(Likes, dislikes, progress)
[ Ranked Foundation List ]
(Best matches at the top)