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## ❖ Overview

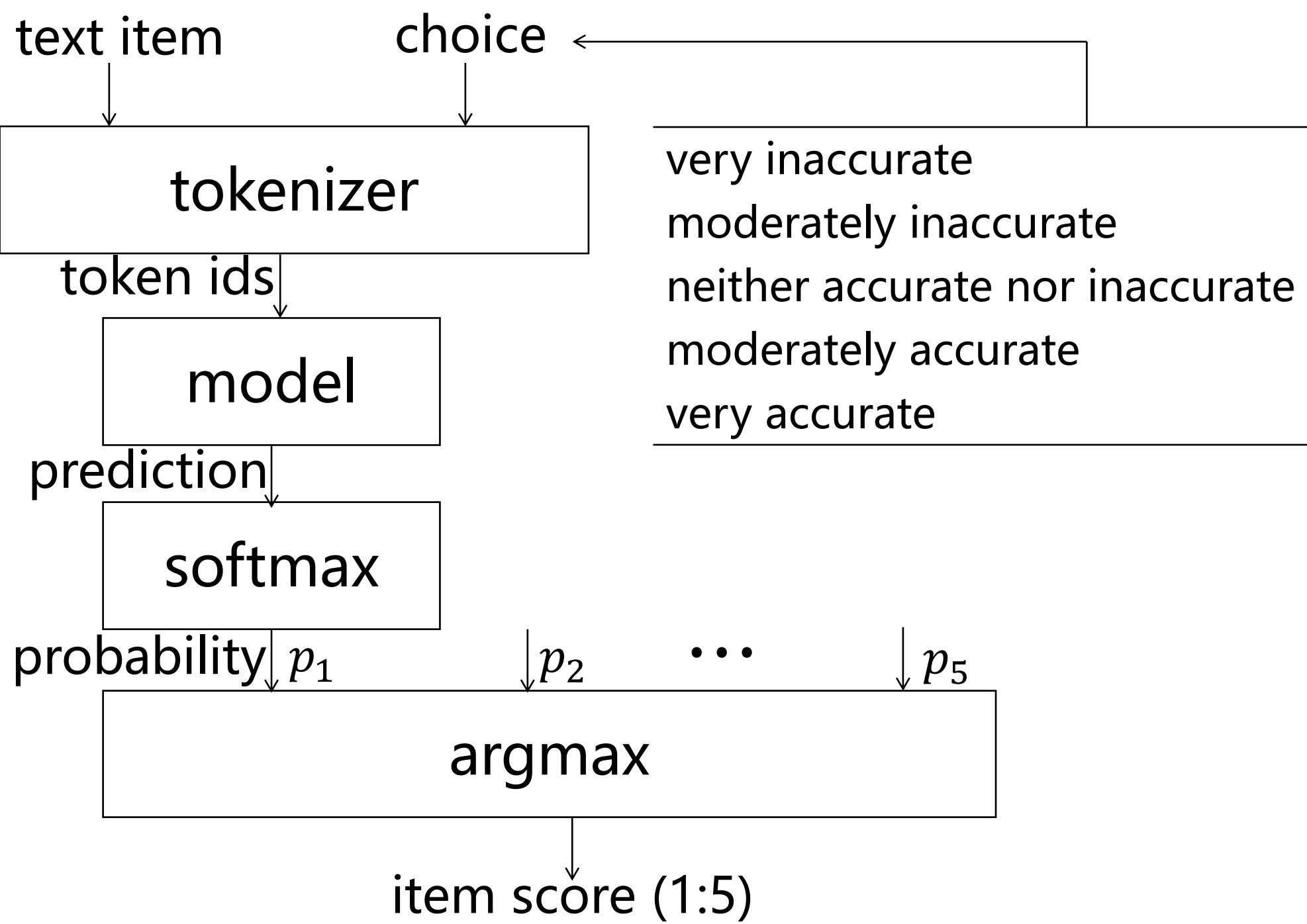
- **Using the Five Factor Model** for assessing personality in a large foundation model (BART)
  - **Hierarchical psychometric data**, including questionnaire, domain, and facet levels
  - **A multicultural viewpoint** over a diverse set of thirty universal contexts
  - **The roles of culture and location learning** for understanding personality
  - **Baseline comparison** to human self-report surveys administered to thousands of individuals
- Notation:** agreeableness (A) conscientiousness (C) extraversion (E) neuroticism (N) openness (O)

## ❖ Human and LLM

| Model | Study               | A    | C    | E    | N    | O    |
|-------|---------------------|------|------|------|------|------|
| Human | Schmitt et al.      | 2.39 | 2.38 | 2.43 | 2.52 | 2.46 |
|       | Kajonius and Giolla | 4.25 | 4.50 | 4.45 | 4.50 | 4.05 |
| BART  | Ours                | 3.12 | 3.09 | 2.95 | 2.91 | 3.06 |

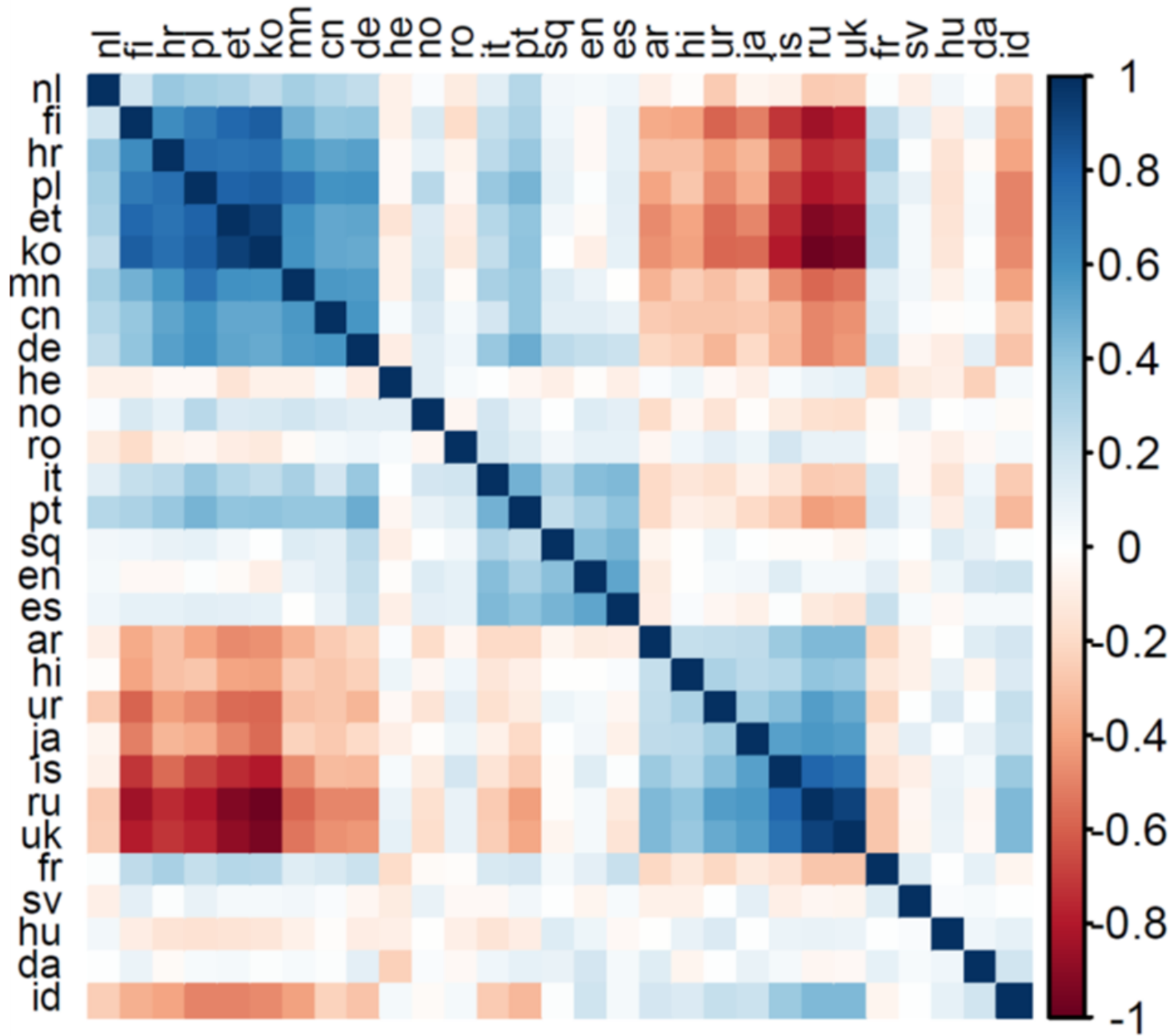
Comparing cross-country and cross-lingual average scores for domain-level personality trait assessment, administered to humans and BART, respectively.

## ❖ Method



Overview of our textual entailment framework. We pair a text item, the hypothesis, with each of the five answer choices, the premise, and derive pair probabilities  $p_{1:5}$  to assess an item score.

## ❖ Language Correlation



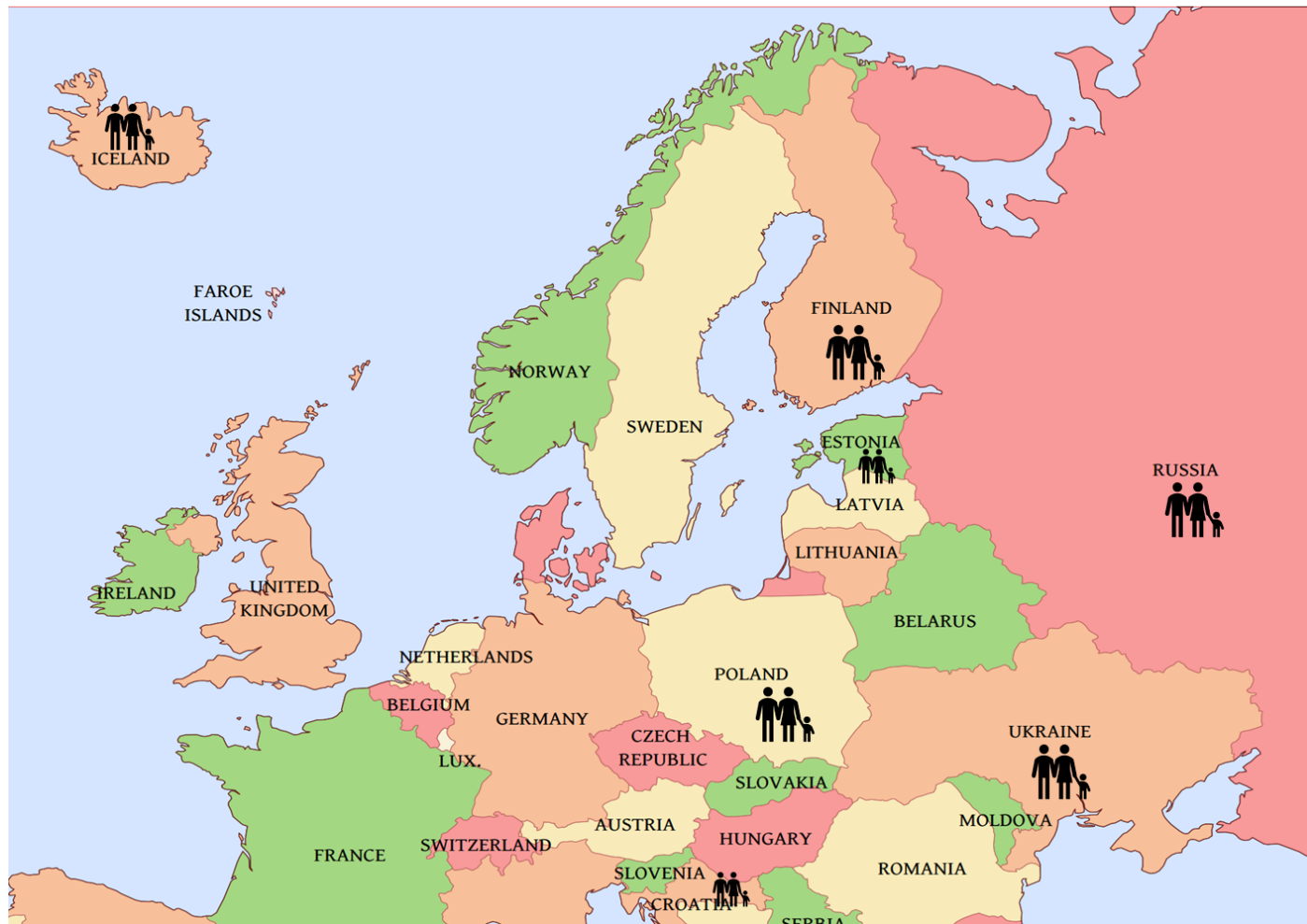
All language-pair correlogram at the questionnaire hierarchy level (red and blue colors render negative and positive relationships, respectively).

## ❖ Test Data

| Query                                | Domain | Facet | Keyed |
|--------------------------------------|--------|-------|-------|
| Believe that I am better than others | A      | 5     | Minus |
| Jump into things without thinking    | C      | 6     | Minus |
| Feel comfortable around people       | E      | 1     | Plus  |
| Find it difficult to approach others | N      | 4     | Plus  |
| Experience my emotions intensely     | O      | 3     | Plus  |

A handful of item queries in English from the IPIP-NEO-120 questionnaire. Showing one query from each of the five-factor domains along with the item facet and the keyed scoring direction.

## ❖ Personality and Location



Personality traits differ by location in the Eastern-Europe region. Notable subgroups are (Poland, Ukraine, Russia) and (Finland, Russia, Estonia).