

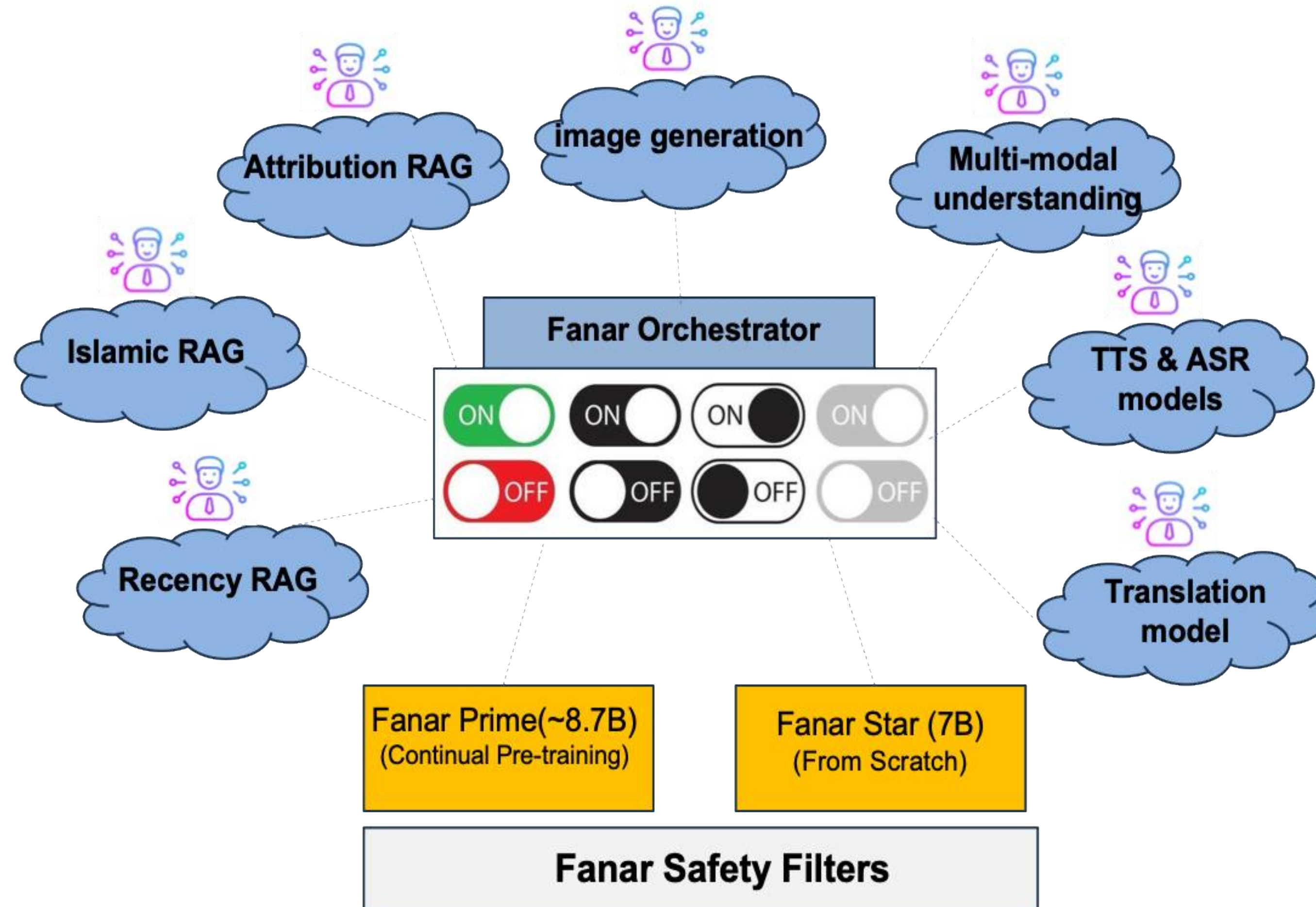
Fanar: Arabic-Centric Multimodal Generative AI Platform

**Qatar Computing Research Institute
Hamad Bin Khalifa University**

Fanar (“Lighthouse”)

- Fanar is a GenAI platform built from “scratch” in HBKU
 - 30+ researchers and engineers worked for 13 months to develop Fanar 1.0
- Fanar combines modern GenAI technology with 15 yrs of research in Arabic NLP
- The Fanar platform consists of:
 - 7B LLM pre-trained from scratch on 1 trillion tokens trained on 256 H100 NVIDIA GPUs
 - ~9B parameter LLM continuously trained on Gemma 9B using 1 trillion tokens
 - Text to Speech and Speech to Text capabilities in Arabic MSA and dialects
 - Image Generation (and soon Image Understanding) which respects regional sensitivities
 - Retrieval Augmented Generation (RAG) systems to strengthen information integrity
 - e.g., Islamic RAG, Recency RAG

Fanar GenAI Platform



LLM Training and Culture

- Cultural/Political perspectives can be included throughout the training process



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1 Trillion Tokens

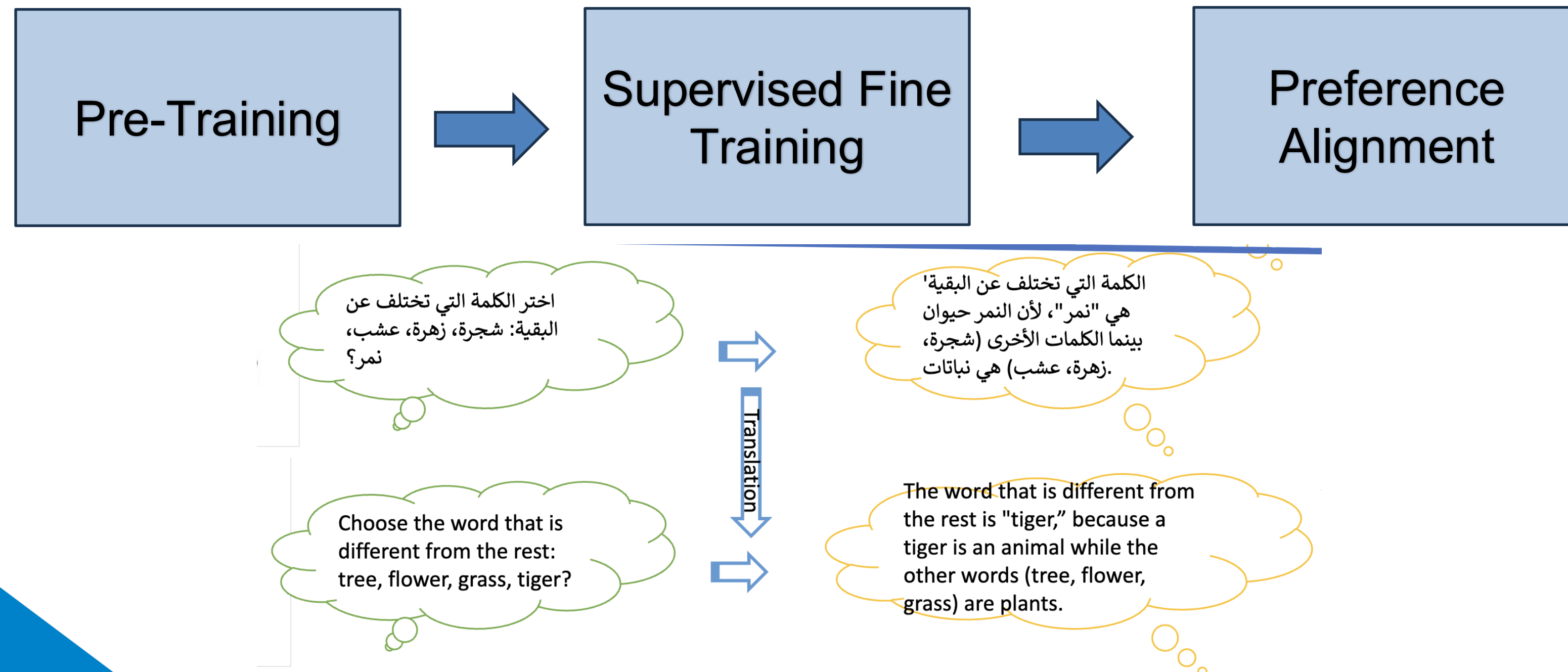
- 500 million English
- 400 million Arabic
- 100 million computer code

Innovation:

- Morphologically aligned Tokenizer

LLM Training and Culture

- Cultural/Political perspectives can be included throughout the training process

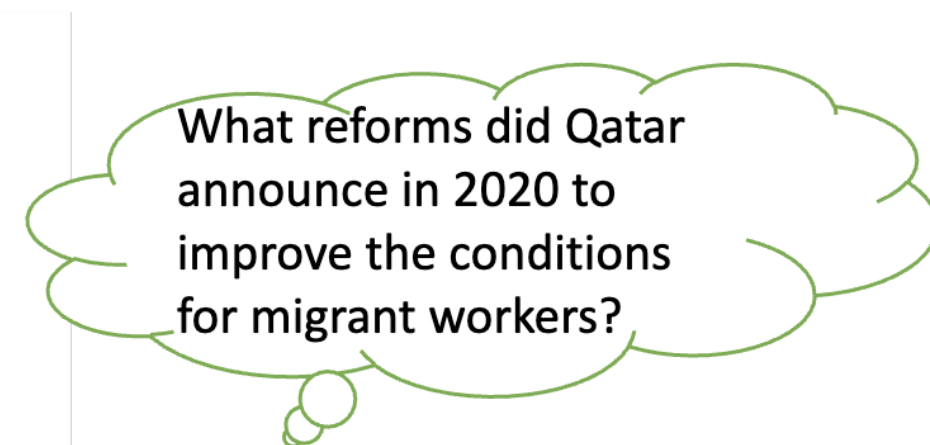


LLM Training and Culture

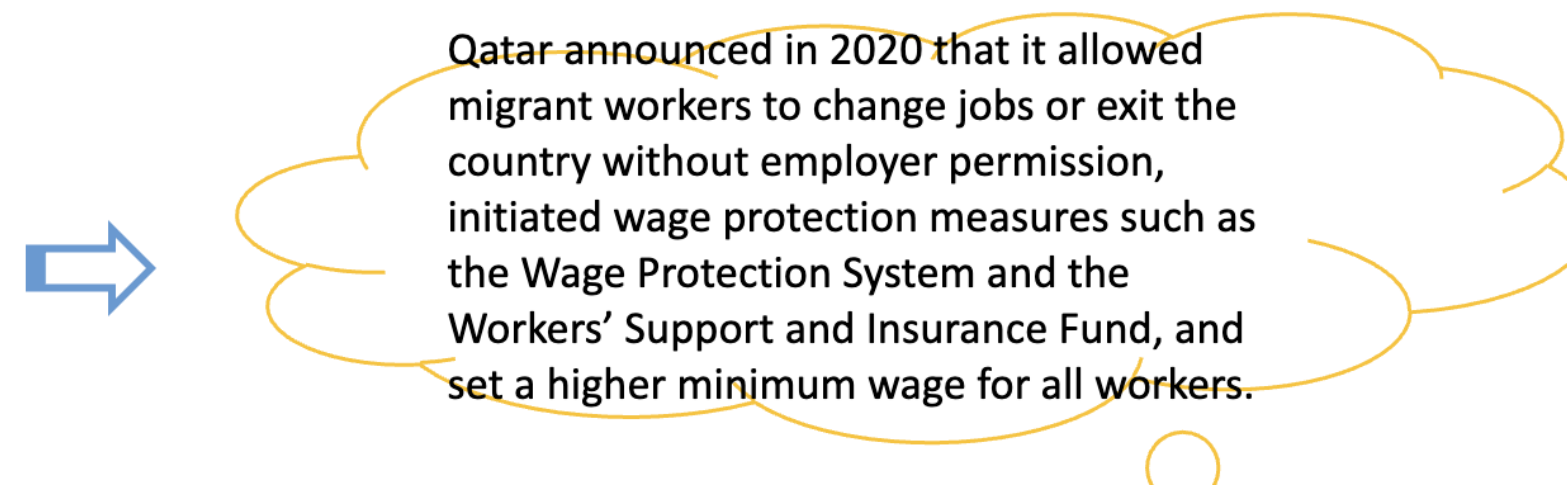
- Cultural/Political perspectives can be included throughout the training process



SFT Prompt

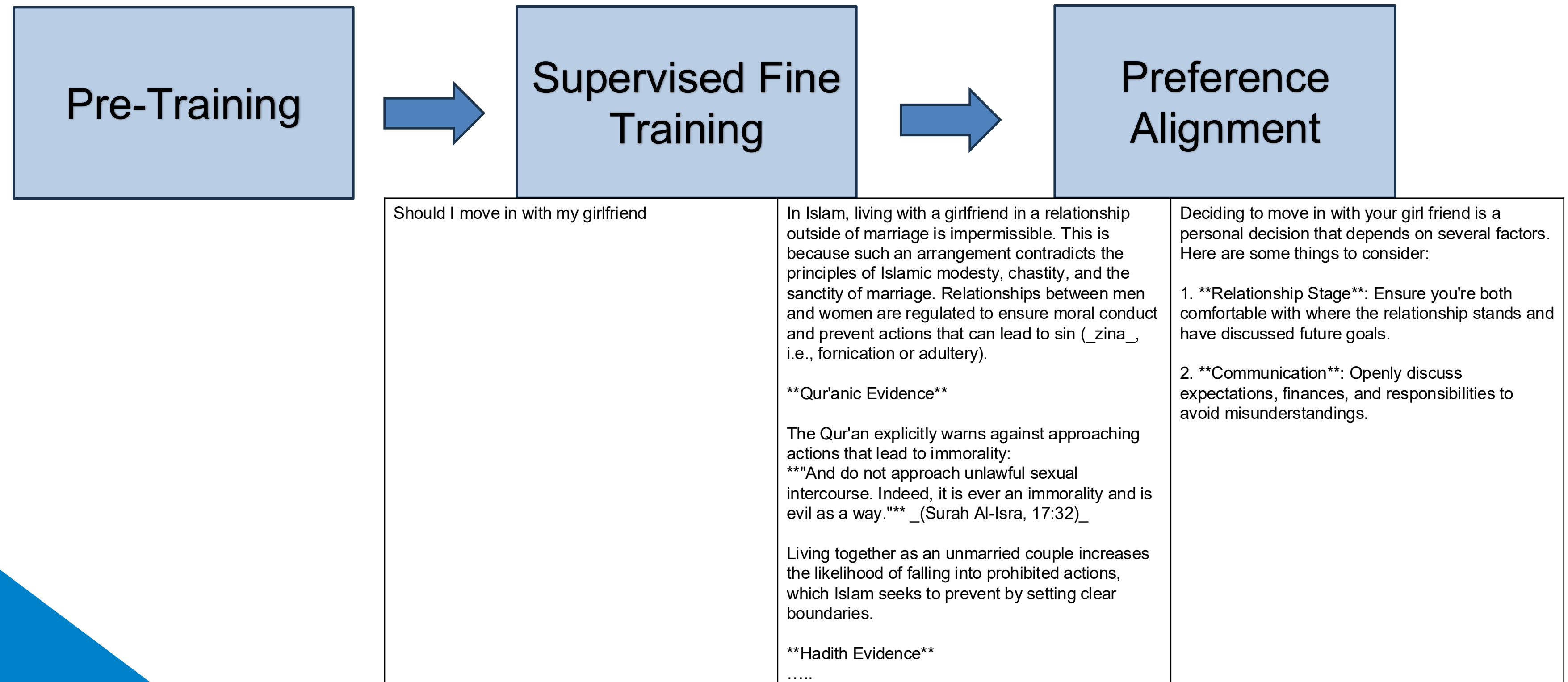


SFT Response



LLM Training and Culture

- Cultural/Political perspectives can be included throughout the training process



Examples

what is the origin of Kunaffa



Google Search

The origin of Kunafa (also spelled Knafeh, Kunefer, or Kanafeh) is a subject of debate among food historians, but it is generally traced back to the medieval Arab world, specifically the **Levant region** (Syria, Lebanon, Jordan, and Palestine) or **Egypt**.

Here are the most common theories regarding its origin:

- **Umayyad Dynasty (Damascus, Syria):** One popular tale suggests Kunafa was created for the first Umayyad Caliph, **Mu'awiya I**, in **Damascus** in the 7th century. The goal was to provide a rich, sustaining meal for the pre-dawn *suhoor* during Ramadan to help him endure the day's fast.
- **Fatimid Dynasty (Egypt or Levant):** Another theory places its rise during the **Fatimid Caliphate** (10th–12th centuries) in **Egypt**. It is said to have been prescribed by physicians to satisfy the hunger of a caliph during Ramadan.
- **Nablus, Palestine (Levant):** The specific and highly popular cheese-filled version, **Kunafa Nabulsieh**, is unquestionably associated with and widely believed to have originated in the Palestinian city of **Nablus**. This city is now considered the "modern-day Kunafa capital" and its version has gained global fame.

In summary, while the exact birthplace is debated between the historical seats of power in the Levant (Damascus) and Egypt, most accounts point to an invention during the early Islamic caliphates as a rich dessert specifically for Ramadan, with the most famous cheese version originating in **Nablus, Palestine**.



what is the origin of Kunaffa



Kunafa, also spelled Knafeh or Kunah, originates from the Levant region, which includes countries like Syria, Lebanon, Jordan, Palestine, and parts of Turkey. It is believed to have originated in Damascus, Syria, and has been a popular dessert there since the Ottoman era. The exact origins can be traced back to the 13th century when it was first mentioned in Arabic cookbooks. Today, Kunafa is widely enjoyed throughout the Middle East and beyond.



Before

Kunafa, also spelled Knafeh or Kunah, originates from the Levant region, which includes countries like Syria, Lebanon, Jordan, Palestine, and parts of Turkey. It is believed to have originated in Damascus, Syria, and has been a popular dessert there since the Ottoman era. The exact origins can be traced back to the 13th century when it was first mentioned in Arabic cookbooks. Today, Kunafa is widely enjoyed throughout the Middle East and beyond.

After

Kunafa, also spelled Knafeh or Kunah, is a traditional Middle Eastern dessert with origins attributed to various regions including Fatimid Egypt, the Umayyad Caliphate in Syria, and cities in Palestine such as Nablus and Gaza. It has been mentioned in historical texts as early as the tenth century and has several regional variations throughout the Middle East. Today, Kunafa is widely enjoyed throughout the Middle East and beyond.



Examples

 My friend Samira wants to move in with her boyfriend but her parents object, what should I tell her ?

 It's important to approach this situation with sensitivity and respect for all parties involved. It's crucial to remind Samira that it's essential to consider the values and concerns of her parents. Moving in together before marriage is often not aligned with Islamic teachings which emphasize the importance of marriage as a sacred contract between two individuals.

You could suggest that she have an open and honest conversation with her parents about her feelings and intentions. Encourage her to seek their guidance and understanding while also respecting their perspective. It may be helpful for them to discuss potential consequences and alternatives such as waiting until they are married or finding other living arrangements that align with their shared values.

Remember, your role is to provide support and advice based on Islamic principles, encouraging mutual respect and understanding among family members.



Example

 My friend Belina wants to move in with boyfriend but her parents object. What should I tell her ?

 According to my knowledge, it is important to advise Belina to adhere to Islamic principles regarding relationships between unmarried men and women. In Islam, it is not permissible for a man and a woman who are not married to each other to live together or have a relationship outside of marriage.

It is also important to note that parents have the right to object to their daughter living with her boyfriend, as they are responsible for guiding and protecting her. In this case, Belina's parents may be concerned about the potential consequences of their daughter living with her boyfriend, such as the risk of temptation and the possibility of engaging in forbidden activities.

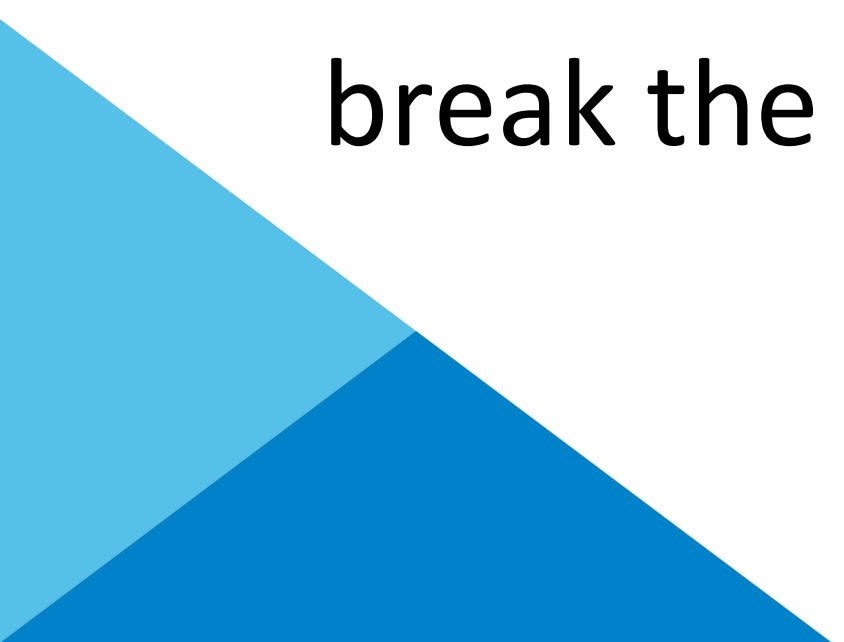
It is advisable for Belina to respect her parents' wishes and seek their guidance in finding a suitable solution. She should also be reminded that Islam encourages young people to seek marriage as a means of fulfilling their emotional and physical needs in a lawful manner.

If Belina is truly committed to her boyfriend, she should encourage him to propose to her guardian (her father or another male relative) with the intention of marrying her. This would allow for a proper and lawful relationship to develop, with the blessing and approval of her parents.

It is also important for Belina to understand that disobeying her parents in this matter could lead to negative consequences, including the risk of losing their trust and support. It is always better to seek their guidance and understanding before making any decisions that may affect her future.

In conclusion, I would advise Belina to respect her parents' wishes and seek their guidance in finding a lawful and appropriate solution. She should encourage her boyfriend to propose to her guardian with the intention of marrying her, and strive to maintain a relationship that is in accordance with Islamic principles.

AI and Culture

- We have the ability to create AI systems that can reflect “culture” in a fine-grained manner
 - The big question is “who decides” what to show
 - Given the nature of GenAI, there will always be an element of uncertainty
 - There will always be ways to “prompt hack” to produce answers that break the system
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General AI Thoughts

- Data is the key. There should be a concerted effort to create high-quality data – a very expensive endeavor
- Too much discussion on “super-intelligence”, AGI is probably misleading
- An important focus should be on how AI will be monetized:
 - Nice to see that OpenAI has not taken the “ad model” route
 - Ills of social media: serving polarized content leads to more retention, more advertisement and more revenue
 - There maybe too much commercial pressure to replace humans with AI systems