وزارة الاتصـــــــالات وتكنولوجيـــــــــا المعلومـــــــات
Ministry of Communications and Information Technology
دولــــة قطــر ♦ State of Qatar

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Artificial Intelligence in Qatar—Principles and Guidelines for Ethical Use

Contents

Overview

Scope of this document

This document provides guidance targeted at users of AI systems[1], including, but not limited to, private companies, government agencies, the general public, and students.

The guidelines are legally non-binding, and adherence to it is voluntary. However, all stakeholders are encouraged to consider how the broad principles outlined below might help uphold Qatar's aspiration.

Due to AI's diverse range of potential applications, the guidelines were developed to ensure broad applicability. Users are encouraged to tailor the guidelines to suit their circumstances and operating context.

This document will be updated every 1-2 years to keep pace with emerging technologies and ensure the ethical use of AI systems in Qatar.

Introduction

Qatar's aspiration to promote the responsible and ethical use of artificial intelligence (AI) to support human, social, and economic development gives rise to AI principles and guidelines.
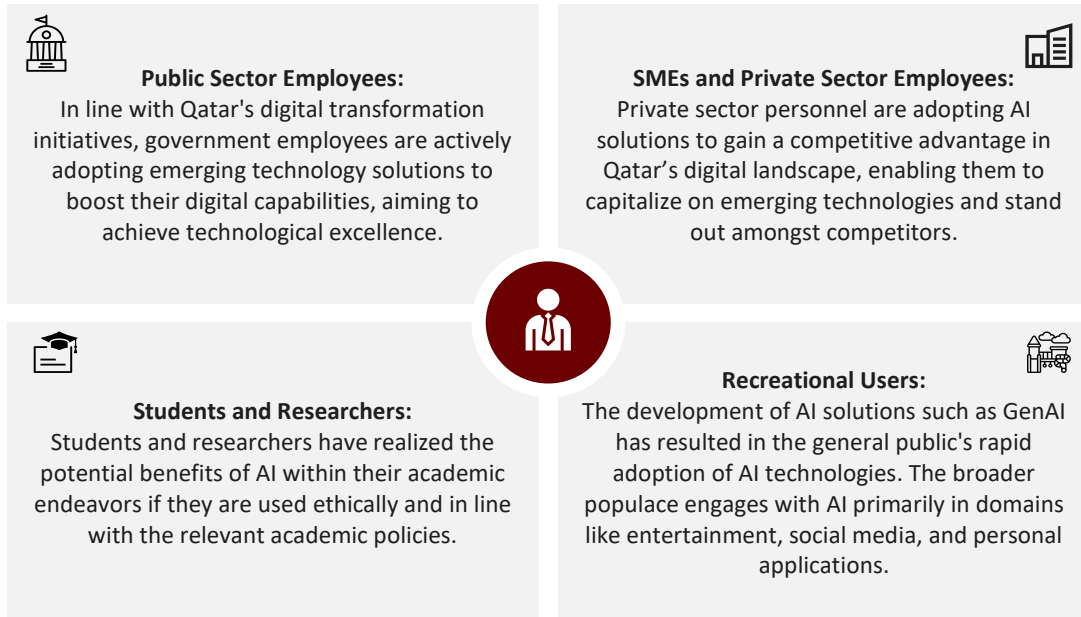
The provision of appropriate guidance to AI users enables Qatar to realize its goals of becoming a regional and global leader in technology adoption while ensuring that the use of emerging technologies[2] is done in a manner that aligns with local values, respects cultural norms, and contributes positively to societal and economic development.

The principles and guidelines ensure that the primary users of AI in Qatar are taken into account, considering the potential challenges and opportunities that may arise during their use of AI technologies.

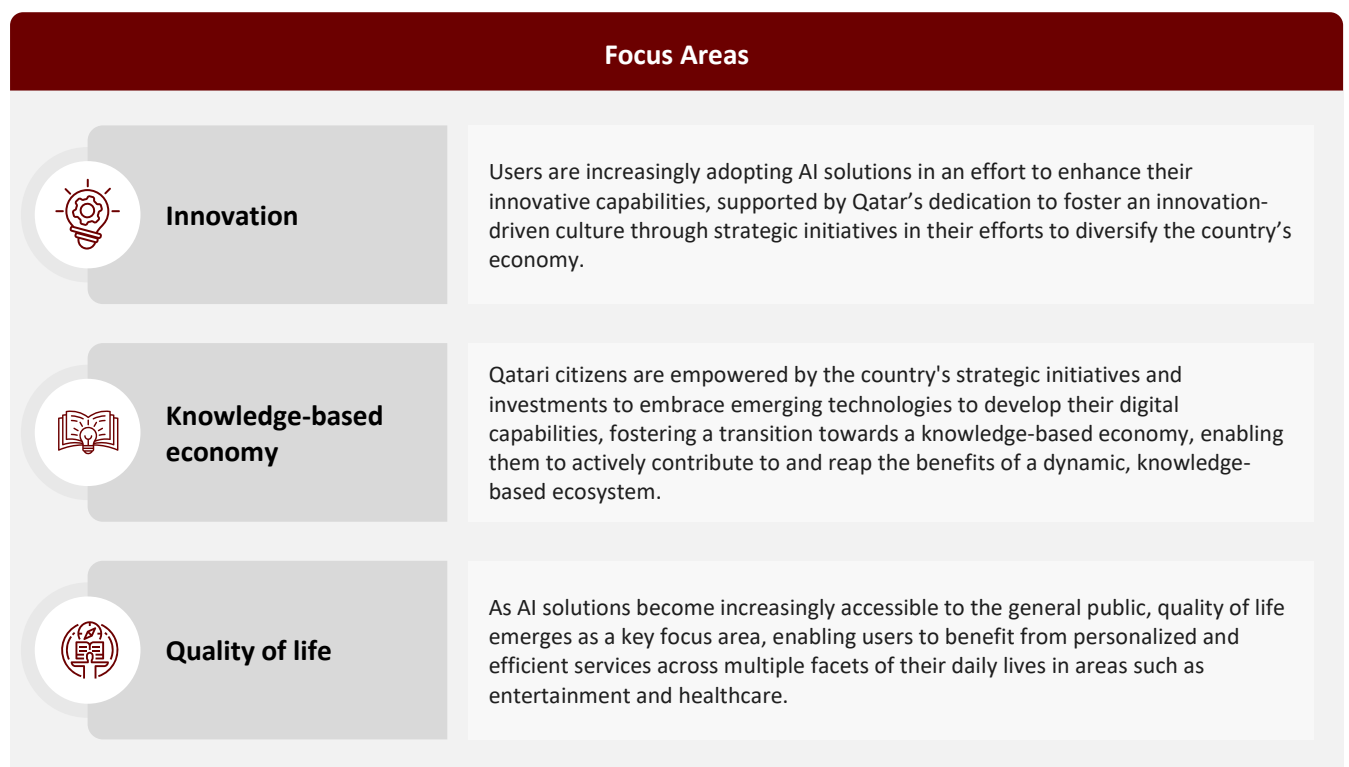[1] AI system refers to the physical or virtual products or services that use AI to serve end users.
[2] Emerging technologies include rapidly evolving technologies such as AI, Blockchain, Metaverse etc.

The primary users in Qatar are categorized into four personas to provide an overarching guide for a broader audience. The personas include:

Public Sector Employees:
In line with Qatar's digital transformation initiatives, government employees are actively adopting emerging technology solutions to boost their digital capabilities, aiming to achieve technological excellence.

SMEs and Private Sector Employees:
Private sector personnel are adopting AI solutions to gain a competitive advantage in Qatar's digital landscape, enabling them to capitalize on emerging technologies and stand out amongst competitors.

Students and Researchers:
Students and researchers have realized the potential benefits of AI within their academic endeavors if they are used ethically and in line with the relevant academic policies.

Recreational Users:
The development of AI solutions such as GenAI has resulted in the general public's rapid adoption of AI technologies. The broader populace engages with AI primarily in domains like entertainment, social media, and personal applications.
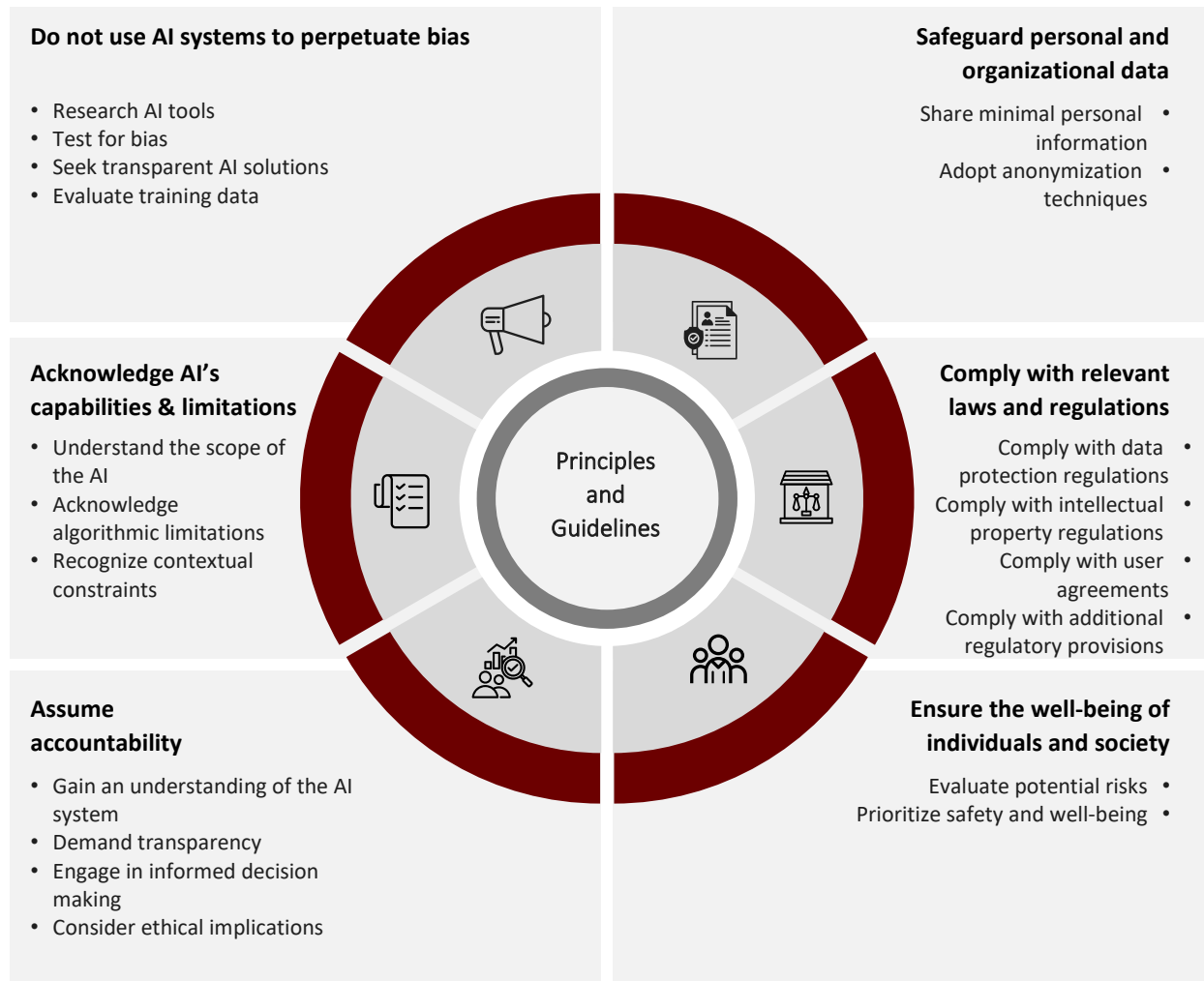
It is imperative to tailor the AI guidelines to incorporate Qatar's unique cultural, ethical, and technological landscape as well as the primary focus areas of the users within Qatar. This approach enables the guidelines to act as a bridge that aligns users' priorities with Qatar's overarching objectives.

As with the introduction of any new technologies, the focus areas of users naturally change and evolve over time. This adaptability is especially relevant when considering the specific interests and priorities of AI users within Qatar, where regional dynamics, economic factors, and societal needs shape the landscape of technological engagement. The focus areas of AI users within Qatar are outlined as follows, reflecting the aspirations and challenges specific to the country:

Focus Areas	
Innovation	Users are increasingly adopting AI solutions in an effort to enhance their innovative capabilities, supported by Qatar's dedication to foster an innovation-driven culture through strategic initiatives in their efforts to diversify the country's economy.
Knowledge-based economy	Qatari citizens are empowered by the country's strategic initiatives and investments to embrace emerging technologies to develop their digital capabilities, fostering a transition towards a knowledge-based economy, enabling them to actively contribute to and reap the benefits of a dynamic, knowledge-based ecosystem.
Quality of life	As AI solutions become increasingly accessible to the general public, quality of life emerges as a key focus area, enabling users to benefit from personalized and efficient services across multiple facets of their daily lives in areas such as entertainment and healthcare.

AI systems have gradually expanded their reach to the general public (through the advancements in GenAI[3]), resulting in a growing concern among citizens about the digital safety of individuals and communities. Adhering to the various measures outlined in this document can mitigate these to an extent.

Principles for ethical AI use in Qatar are:

Do not use AI systems to perpetuate bias

- Research AI tools
- Test for bias
- Seek transparent AI solutions
- Evaluate training data

Safeguard personal and organizational data

- Share minimal personal information
- Adopt anonymization techniques

Acknowledge AI's capabilities & limitations

- Understand the scope of the AI
- Acknowledge algorithmic limitations
- Recognize contextual constraints

Comply with relevant laws and regulations

- Comply with data protection regulations
- Comply with intellectual property regulations
- Comply with user agreements
- Comply with additional regulatory provisions

Assume accountability

- Gain an understanding of the AI system
- Demand transparency
- Engage in informed decision making
- Consider ethical implications

Ensure the well-being of individuals and society

- Evaluate potential risks
- Prioritize safety and well-being

Principles and Guidelines

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[3] Generative AI (GenAI) is artificial intelligence capable of generating text, images, or other data using generative models, often in response to prompts.

The principles and guidelines, while not bound by Qatar's strategic initiatives, are aligned with elements within initiatives such as the Qatar National Vision 2030, ensuring that the development of the guidelines supports Qatar's long-term objectives:

Human development	Social development	Economic development
– **Do not use AI systems to perpetuate bias** *(Principle 6)*	– **Ensure the well-being of individuals and society** *(Principle 3)* – **Acknowledge AI's capabilities & limitations** *(Principle 5)* – **Assume accountability** *(Principle 4)*	– **Assume accountability** *(Principle 4)* – **Comply with relevant laws and regulations** *(Principle 2)* – **Safeguard personal and organizational data** *(Principle 1)*

Additionally, the guidelines draw upon elements identified across regional and global benchmarks, incorporating best practices leveraged across guidelines from various countries and organizations. This approach ensures the guidelines reflect the latest and most effective AI ethics and implementation standards worldwide.

Guidelines for ethical AI use

Principle 1—Safeguard personal and organizational data

Guidelines

Privacy holds significant importance for users leveraging AI systems, whether within an organization, for academic purposes, or for personal use, serving as a safeguard against unauthorized access, misuse, and exploitation of sensitive personal or organizational data.

Adopting the following measures ensures that the privacy of data is upheld while leveraging AI systems:

- **Share minimal personal information:** Users should exercise caution and restraint when sharing personal data with AI systems, providing only the minimum amount necessary for the AI system's intended function.
- **Adopt anonymization techniques:** Users should adopt anonymization[4] and pseudonymization[5] techniques to mitigate the risk of AI systems tracing information back to individuals.

Rationale

Users can feel more confident in their interactions with AI technologies by ensuring that personal data is shared minimally. Moreover, adopting privacy measures mitigates and protects users against potential harm from data breaches or misuse.

Adopting privacy measures while using AI systems aligns with Qatar's commitment to personal data protection initiatives, as it was the first GCC country and the 3rd Arab country to enact a law explicitly safeguarding personal data.

The anonymization of personal data acts as an additional layer of security. If a data breach occurs, anonymized data minimizes the potential harm to individuals since their identities are not readily discernible.

This protects individuals' privacy and reduces the impact of breaches on organizations by limiting their liability and potential regulatory penalties.

Example

According to an article in the Financial Times, the vulnerability of Nvidia's AI software to attacks resulted in a situation where malicious actors could exploit it to expose personal information stored within its database. AI users in Qatar can mitigate their vulnerability to such threats by adopting appropriate measures to safeguard their personal data.

Government organizations are increasingly adopting AI systems within their business functions, ensuring that their personnel follow security measures such as implementing limitations on the organizational and personal information shared, enabling them to safeguard their organizational

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[4] Anonymization is a process of transforming personally identifiable information (PII) in datasets into a form where individuals cannot be readily identified.

[5] Pseudonymization is a data protection and privacy technique that involves replacing or encrypting personally identifiable information (PII) in a database with artificial identifiers or pseudonyms.

data. Qatari government personnel can adopt similar measures to ensure that they protect the agency's confidential information by the relevant guidelines present within the organization.

Educational platforms such as Khan Academy have implemented AI systems to provide personalized learning paths based on individual student performance and preferences while ensuring their users' information is protected by privacy principles. Consequently, Qatari citizens should take responsibility for the AI technologies they use, leveraging AI solutions that support the development of human capabilities within the country while ensuring sufficient data protection measures are in place.

Principle 2— Comply with relevant laws and regulations

Guidelines

As users increasingly adopt AI systems to generate, analyze, and distribute content, it becomes imperative to comply with relevant laws and regulations to safeguard against potential legal violations.

To ensure the AI systems used in Qatar are according to the laws and regulations, those who use AI systems should ensure that they:

- **Comply with data protection and privacy regulations:** Adhere to data protection and privacy regulations within the country, such as Qatar's data protection law, ensuring that data is used to respect individual privacy and maintain data security.
- **Comply with user agreements:** Adhere to the terms of use and licensing agreements associated with AI systems, software, and datasets, ensuring that usage is within the permitted activities outlined in these agreements.
- **Comply with intellectual property regulations:** Users should ensure that the content generated by AI solutions aligns with Qatar's IP (Intellectual Property) laws and regulations. To ensure compliance, the following measures can be adopted:
  - **Review AI-generated content:** Conduct thorough IP checks to ensure that the content generated by AI systems does not infringe on existing copyrights, trademarks, patents, or any other IP rights.
  - **Ensure proper source attribution:** Provide appropriate attribution to the original creators or rights holders when utilizing AI-generated content or integrating third-party intellectual property into outputs generated by AI systems.
  - **Obtain the necessary permissions or licenses**: Users should ensure they receive permission or licenses from relevant rights holders if using AI solutions involves creating, modifying, or distributing copyrighted content.
- Additionally, users should be considerate towards any additional regulatory provisions applicable to their use cases of AI systems.

Rationale

Qatar is a signatory to various international treaties and conventions that govern intellectual property rights (IPRs). Ensuring that products and outputs developed by users adhere to the country's IP laws fosters a culture of respect for IPRs.

Qatar has emerged as a regional leader in intellectual property rights, ranked 2nd in the Middle East and North Africa according to the 2023 International Property Rights Index published by the Property Rights Alliance.

By adhering to IPRs, users of AI systems can ensure that creators receive the recognition and compensation they deserve, fostering an environment where creativity and innovation are valued and protected and encouraging further contributions to the cultural and technological landscape.

Example

YouTube has adopted measures that block content created by users that leverage copyrighted material, resulting in stricter enforcement actions, including demonetization and removal of videos. The lack of appropriate permissions and licenses resulting in such disciplinary actions can be limited in Qatar by ensuring that the content generated using AI solutions complies with the relevant regulations.

Many universities are launching investigations into the misuse of AI if the technology is used in a manner that violates academic integrity. By complying with the relevant policies and ensuring that academic integrity is maintained, Qatari students can benefit from using AI technologies while ensuring they are not subject to disciplinary actions.

Principle 3— Ensure the well-being of individuals and society

Guidelines

AI systems should be used ethically and responsibly, ensuring that their use does not cause harm to others, infringe upon their rights, or disseminate misinformation. Users should consider the impact of their actions on both individuals and the broader community, prioritizing the safety, well-being, and rights of all stakeholders affected by AI technologies.

The following measures can help ensure that users navigate AI systems responsibly while minimizing the risk of harm:

- **Evaluate potential risks:** Conduct assessments to identify potential harms or negative consequences of using AI systems, considering both short-term and long-term impacts.
- **Prioritize safety and well-being:** Prioritize the safety, well-being, and rights of individuals and communities affected by the AI systems in all decision-making and actions.

Rationale

Qatar National Vision 2030 highlights the country's commitment to sustainable development and technological advancement as pivotal strategies for diversifying the economy and reducing the economy's reliance on oil.

The integration of AI technologies must be aligned with the nation's objectives, ensuring that technological progress is achieved in a manner that is sustainable, ethical, and conducive to societal well-being while safeguarding against adverse impacts on the economy or society.

As Qatar continues to invest heavily in digital transformation across various sectors, including government, healthcare, education, and finance, the need to create a safe digital environment becomes paramount: technologies such as AI possess the potential to either benefit society greatly or yield unintended negative consequences if employed without caution.

Example

As the utilization of generative AI tools rises, there is a concerning trend of their application in creating deepfakes[6] of political figures, celebrities, and ordinary individuals, thereby propagating misinformation and causing adverse effects like defamation and political instability.

Qatari citizens must prioritize using AI systems for their betterment and to ensure the well-being of society in alignment with the cultural and religious principles of the country.

Principle 4— Assume accountability

Guidelines

Users are responsible for understanding, evaluating, and overseeing the ethical, legal, and societal implications of the AI systems they use. The following measures enable users to assume accountability in their interactions with AI systems:

- **Demand transparency:** Users should demand transparency from AI system providers regarding how the systems work, the data they use, and any potential biases involved.
- **Engage in informed decision-making:** Before utilizing AI systems, users need to be aware of who the ultimate decision-making authority lies with and be mindful of how and to which extent AI systems may inform the outcome of such decisions.
- **Consider ethical implications:** Consider the ethical implications of using AI systems and strive to avoid actions that may harm or discriminate against individuals or groups.

Rationale

Qatar's Vision 2030 emphasizes social development, ethical governance, and fostering a knowledge-based economy rooted in high moral principles.

As such, AI technology should be leveraged with a sense of responsibility and a commitment to ethical standards that align with the National Vision, ensuring that technological advancements contribute positively to society and the economy while adhering to ethical standards and promoting social welfare.

Example

AI systems frequently generate solutions without providing a factual basis or a structured methodology for their analysis. This presents a considerable challenge in fields demanding high transparency and accountability, such as medical sciences. If such AI systems are used in Qatar's healthcare sector, hospitals and healthcare providers should request that AI system vendors disclose the decision-making processes, data sources, and limitations to ensure informed usage.

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[6] A deepfake refers to a form of synthetic media in which artificial intelligence (AI) or machine learning techniques are used to create or alter content, often in the form of images, videos, or audio recordings, to make them appear as though they are authentic and genuine.

Principle 5— Acknowledge AI's capabilities & limitations

Guidelines

Understanding and acknowledging the boundaries, constraints, and shortcomings inherent to AI systems is crucial for informed decision-making and responsible use of AI systems. It involves recognizing that AI technologies have specific capabilities and limitations, including biases, inaccuracies, uncertainties, and contextual constraints.

The following measures enable users to understand the limitations of AI systems better:

- **Understand the scope of the AI:** Users should identify the capabilities and limitations of the AI systems they use by familiarizing themselves with the specific tasks for which the AI was designed and recognizing its constraints in terms of capabilities and performance.
- **Acknowledge algorithmic limitations:** Be aware of the limitations inherent in AI algorithms, such as biases, inaccuracies, and uncertainty. Understand that AI systems may produce errors or unexpected outcomes, particularly in complex or ambiguous situations.
- **Recognize contextual constraints:** Consider the context in which AI systems are deployed and recognize the limitations imposed by factors such as data quality, availability, and relevance.

Rationale

AI users should take into consideration that AI is a rapidly evolving technology, continuously being refined to address its inherent flaws and errors. Recognizing and understanding the limitations and constraints of AI systems is essential for their responsible usage and effective integration into decision-making processes.

The context in which AI systems operate significantly affects their performance. Users should consider factors like data quality, availability, and relevance, understanding how these factors can limit the effectiveness of AI technologies.

By adhering to the guidelines, users can adopt a more informed and cautious approach to integrating AI into various aspects of life and work, supporting the broader objectives of Qatar's National Vision 2030 for ethical governance and the development of a knowledge-based economy.

Example

Various organizations worldwide are implementing AI systems to enhance their business capabilities by automating routine tasks. For example, according to Doha News, Qatar has integrated AI into its judicial systems to streamline routine processes and offer more personalized and efficient services to the public, reinforcing the country's commitment to technological innovation as a cornerstone for judicial excellence. However, it's crucial to acknowledge the limitations of AI systems and supplement them with human decision-making. This approach ensures the effective utilization of AI technologies while facilitating Qatar's digital transformation initiatives in the public sector.

Principle 6— Do not use AI systems to perpetuate bias

Guidelines

AI systems can inherit biases from their training data[7] or design. Users should leverage AI tools that are known for minimizing bias and be cautious of relying on AI solutions that could potentially lead to discrimination or unfair treatment of individuals based on race, gender, religion, or other characteristics.

Users can adopt the following measures to mitigate bias and ensure that they use AI solutions in a manner that promotes fairness and inclusivity:

- **Research AI tools:** Before selecting an AI tool, research to identify those known for minimizing bias and promoting fairness in their algorithms. Opt for AI solutions that prioritize transparency and provide explanations of their decision-making processes.
- **Test for bias:** Conduct tests to evaluate the AI for biases, particularly regarding sensitive attributes such as race, gender, age, ethnicity, or religion. Leverage bias assessment tools for testing the AI against diverse datasets.
- **Seek transparent AI solutions:** Choose AI tools that offer transparency regarding their algorithms and decision-making processes, explaining how predictions or recommendations are generated, allowing users to understand and assess fairness.
- **Evaluate training data:** When possible, inquire about the training data used to develop the AI tool. Ensure the data is diverse, representative, and free from biases that could lead to discriminatory outcomes.

Rationale

Qatar aims to capitalize on the country's diverse cultures, encompassing individuals from various ethnicities and backgrounds, to foster inclusivity, promote understanding, and drive economic growth through cultural exchange, tourism, and creative industries.

Adopting disruptive technologies such as AI fairly and inclusively ensures that specific subsets of the country are not marginalized, creating an environment that supports inclusivity and embraces diversity.

By prioritizing fairness and inclusivity, Qatar's AI ecosystem has the potential to emerge as a regional leader in promoting diversity. Qatar can establish a foundation of trust and safety by nurturing an environment that values diversity and ensures equal opportunities for all stakeholders. This inclusive approach fosters innovation, attracts top talent, and fosters sustainable growth.

Example

AI chatbots such as ChatGPT can inherit biases from their training data, leading to outputs that might overlook certain groups of people or portray specific demographics negatively.

Identifying AI systems trained on data that accurately represents Qatar's diverse backgrounds and demographics is essential. It ensures that AI systems within the country consider cultural, social, and linguistic diversity, promoting inclusivity and fairness.

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[7] Data that is used to train the AI systems.

Summary

The rapid evolution of AI technology has resulted in an increased adoption of AI solutions in Qatar, with users ranging across multiple domains looking to leverage the potential benefits that the technology provides.

With technology as capable as AI, users must be vigilant about its potential impacts, ensuring that their adoption of AI solutions benefits them and contributes positively to society.

Adopting AI solutions without proper guidance can create issues such as personal data privacy violations, copyright infringement, and the perpetuation of bias and discrimination, negatively impacting oneself and Qatar's overarching objectives of National Vision 2030.

The principles outlined in these guidelines are designed to help manage these risks while increasing the benefits for Qatari society by harnessing AI's potential to promote human, social, and economic development.

To achieve this, it is crucial that:

- AI solutions are utilized in a way that aligns with Qatar's moral and ethical values, ensuring that its use benefits Qatar's society and economy without adversely affecting the country's inhabitants
- Adequate measures are implemented by the users to safeguard personal information while using AI solutions, thus ensuring a safe and secure digital environment
- Users take responsibility for the AI solutions they employ, adopting a knowledge-based approach to leveraging AI solutions within the country