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ECLAC SUBREGIONAL HEADQUARTERS FOR THE CARIBBEAN

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THE CARIBBEAN AND ARTIFICIAL INTELLIGENCE: PAST, PRESENT AND FUTURE

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ABOUT ECLAC and the CDCC

The Economic Commission for Latin America and the Caribbean (ECLAC) is one of five regional commissions of the United Nations Economic and Social Council (ECOSOC). It was established in 1948 to support Latin American governments in the economic and social development of that region. Subsequently, in 1966, the Commission (ECLA, at that time) established the subregional headquarters for the Caribbean in Port of Spain to serve all countries of the insular Caribbean, as well as Belize, Guyana and Suriname, making it the largest United Nations body in the subregion.

At its sixteenth session in 1975, the Commission agreed to create the Caribbean Development and Cooperation Committee (CDCC) as a permanent subsidiary body, which would function within the ECLA structure to promote development cooperation among Caribbean countries. Secretariat services to the CDCC would be provided by the subregional headquarters for the Caribbean. Nine years later, the Commission's widened role was officially acknowledged when the Economic Commission for Latin America (ECLA) modified its title to the Economic Commission for Latin America and the Caribbean (ECLAC).

Key Areas of Activity

The ECLAC subregional headquarters for the Caribbean (ECLAC/CDCC secretariat) functions as a subregional think-tank and facilitates increased contact and cooperation among its membership. Complementing the ECLAC/CDCC work programme framework, are the broader directives issued by the United Nations General Assembly when in session, which constitute the Organisation's mandate. At present, the overarching articulation of this mandate is the United Nations Sustainable Development Goals.

Towards meeting these objectives, the Secretariat conducts research; provides technical advice to governments upon request; organizes intergovernmental and expert group meetings; helps to formulate and articulate a regional perspective within global forums; and introduces global concerns at the regional and subregional levels.

Areas of specialization include trade, statistics, social development, science and technology, and sustainable development, while actual operational activities extend to economic and development planning, demography, economic surveys, assessment of the socio-economic impacts of natural disasters, climate change, data collection and analysis, training, and assistance with the management of national economies.

The ECLAC subregional headquarters for the Caribbean also functions as the Secretariat for coordinating the implementation of the Programme of Action for the Sustainable Development of Small Island Developing States. The scope of ECLAC/CDCC activities is documented in the wide range of publications produced by the subregional headquarters in Port of Spain.

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The illustration used in the cover of this Focus was generated using Artificial Intelligence.

COVER

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PROMPT: Artificial Intelligence: Past, present and future, with futuristic digital looking clock at an angle, computer parts, lots of lights, dark hues of blue and minimal caribbean leaf

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THE CARIBBEAN AND ARTIFICIAL INTELLIGENCE: PAST, PRESENT AND FUTURE

The FOCUS magazine highlights current issues of importance to the Caribbean and spotlights ECLAC's work on those topics. A FOCUS magazine issued in 2023 discussed the potential and challenges of artificial intelligence (AI) for Caribbean sustainable development.

As AI remains a matter of pressing importance to the subregion, ECLAC Caribbean has continued to explore this topic with a view to supporting Caribbean governments' efforts at ensuring effective governance of this phenomenon. This issue of FOCUS magazine will explore dimensions of the Caribbean's AI past, present and future.

Though AI tools are only now becoming widely available to the general public, the field of AI has a long history, including in the Caribbean. In 1989, students and faculty at the University of the West Indies (UWI) at St. Augustine, Trinidad and Tobago organized the First Caribbean Conference and Exhibition on Artificial Intelligence, gathering national and international experts in the field of AI to discuss technological developments, present research papers and exhibit technologies they had developed. The first article of this issue seeks to recover this piece of the Caribbean's AI history, by reviewing the Proceedings of the Conference, and discussing the Conference in its historical context.

From the last quarter of 2023 until now, the past year has been a hectic one for people working to govern AI and its impacts.

Governments from across the Caribbean have been involved in this work, in big and small ways, leading to many important developments. We can confidently say that in just one year, major strides have been made towards AI governance. The second article in this issue reviews some highlights from the past year, demonstrating that the Caribbean is by no means a passive onlooker as the world and technology develops, and foreshadowing the work to come.

In the 2023 FOCUS on AI, ECLAC interviewed Craig Ramlal, a Trinbagonian UWI senior lecturer who had just been appointed to the United Nations Secretary-General's High-Level Advisory Body on Artificial Intelligence. In less than one year, the Advisory Body on AI published its interim report, held extensive multi-stakeholder consultations, and then published its final report in September 2024. In this issue, we catch up with Craig Ramlal to hear how his perspective has evolved, and what his hopes are for AI and the Caribbean.

As AI governance is becoming more important, so are countries and others seeking to measure the impact of AI and their efforts to govern it. The Global Index

on Responsible Artificial Intelligence (GIRAI), which is a multidimensional tool, seeks to measure the extent to which actors in the national AI ecosystem respect and protect all human rights and uphold ethical AI principles. The final article of this issue reviews the results of the Caribbean countries assessed on the GIRAI, discussing areas of activity or inactivity, actors involved and underexplored thematic areas. It then makes recommendations on how to strengthen AI policymaking in the Caribbean going forward, drawing on lessons from other regions' results and the Caribbean's performance on the index.

Altogether, these articles seek to reinforce the idea that the Caribbean has a place and a voice in the AI space, whether it is technological or regulatory. There is no doubt in my mind that the Caribbean has an AI past, present and future.

Yours in focus,

Diane Quarless



UNCOVERING A PIECE OF CARIBBEAN AI HISTORY: THE 1989 CARIBBEAN CONFERENCE AND EXHIBITION ON ARTIFICIAL INTELLIGENCE

By Lika Døhl Diouf

While artificial intelligence (AI) has surged into the public consciousness in recent years, the field of AI has a longer history than many are aware of. A lot of imagination and technical work had to take place for the technologies we use today to become possible.

In this article, we uncover a piece of the Caribbean's AI history and discuss some of the developments that have taken place since then.

Earlier this year, I took a trip to the Saint Augustine campus of the University of the West Indies (UWI). Carefully stored in the West Indiana and Special Collections of the Alma Jordan Library, I read through a valuable piece of Caribbean AI history, namely the Proceedings of the First Caribbean Conference and Exhibition on Artificial Intelligence (Chin and Seepersad (eds.), 1990). The volume contains conference papers and presentations on AI from the said Conference (CCEAI), which was held 35 years ago at UWI St. Augustine from 4 to 5 December 1989. Unless otherwise stated, all the information on the Conference discussed below is summarized from this volume.

One of the main objectives of the Conference was to provide a forum for information exchange between participants in their respective fields of interest, and to encourage them to join the Artificial Intelligence Interest Group (AIIG), which was launched at the Conference. The Conference consisted of seven technical sessions, with experts based in Trinidad and Tobago, Canada and the United States presenting.

The presentations covered a wide range of AI systems and technologies, including “knowledge-based expert systems” (or just “expert systems”), object recognition and vision systems, and blackboard systems. These types of rule-based AI systems were the dominant form of AI used in the 1980s, and many different expert systems in particular had been developed to address complex challenges in a wide range of industries.

EXPERT SYSTEMS AND THEIR USES

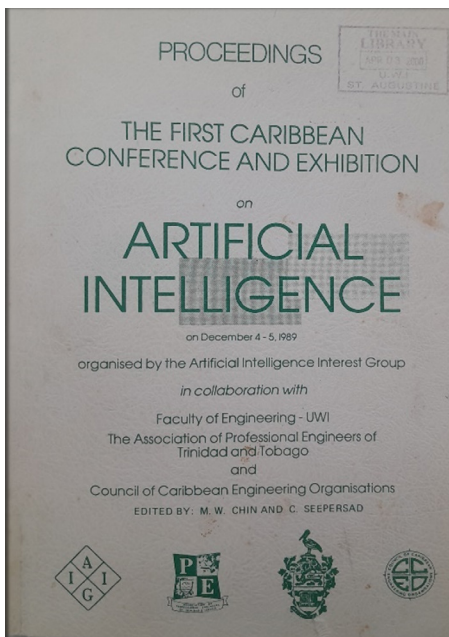
Though the term is sometimes used differently now, at the time of the Conference, expert systems were rule-based AI systems that sought to replicate the domain knowledge of a human expert by expressing that knowledge symbolically.

In essence, expert systems were aimed at creating new ways to represent human knowledge, so that it could be manipulated by the software and used to generate new knowledge (Oliveira and Figueiredo, 2024). The expertise or domain knowledge of an expert was transformed into minute pieces of information, that could be expressed as a set of “IF... THEN...” rules. The “IF”

would describe a particular condition, and the “THEN” would describe the action to be taken as a result of the condition. These rules could be combined using either “AND” or “OR” connectors that together described how to solve a particular problem (Gupta and Nagpal, 2018).

Developed in the 1970s and popularized in the 1980s, expert systems revived interest in the field of AI following a so-called “AI winter”, characterized by disillusionment with the potential of the technology, reduced funding for scientific research, and slowed scientific progress. Though expert systems are by some no longer considered to qualify as artificial intelligence (e.g. Haenlein and Kaplan, 2019), others consider expert systems among the first truly successful forms of AI software (e.g. Gupta and Nagpal, 2018). Such systems became popular in part because of how practical they were, and were adopted widely across industries.

A paper from the CCEAI Proceedings by Edward A. Feigenbaum of Stanford University, notes that at time of writing in 1989, an “extremely conservative” estimate is that there were over three thousand expert systems in day-to-day use around the world. Feigenbaum, a pioneer in the field of AI often dubbed “the father of expert systems” (computerhistory.org), shared several



case studies on the areas of application of expert systems: In scheduling manufacturing of semiconductor chips; designing zoom lenses for cameras; producing and adjusting flight schedules; configuring computers; and planning naval operations. In each case, the time required to complete the set task reduced from hours or days to mere minutes! Carolyn Seepersad-Bachan, who co-edited the Proceedings from the Conference along with Myron W. Chin, recalls the excitement they felt as organizers around getting a world-leading expert in AI to come to the Conference, and the optimism they had for the technology.

Several of the papers presented at the 1989 CCEAI reflect this, and discuss the application of such expert systems in sectors and situations relevant to the Caribbean: Myron W. Chin considered the application of such systems for seismic and hurricane risk assessment of building facilities in the West Indies; A.B. Muhiddin and others discussed their use to control landslides in tropical urban environments; several papers were concerned with the application of expert systems in

various phases of construction; and others sought to apply them to industrial settings, or in diagnostics in veterinary or human medicine. The diversity of topics covered by the papers demonstrates both the breadth of expertise available in Trinidad and Tobago at the time, and how expert systems were hoped to be able to contribute to greater economic and human development in the Caribbean. In a phone call, Carolyn Seepersad-Bachan, reminisced on that time as follows: “We had great hopes for AI. I was a young lecturer then, thinking Trinidad could go places. I had a lot of fire, and wanted us to pioneer this technology and export it, use it in our own energy sector, and so on. AI was becoming very important to us, because we were using it in instrumentation¹[in the oil and gas industry].”

OTHER AI SYSTEMS

Other papers from the CCEAI discussed other types of AI systems and technologies, including microprocessor-based object recognition systems, vision systems design, object-oriented programming for industrial applications, and blackboard systems for serial and concurrent problem solving. Some of these technologies are forerunners of current technologies, or tried to solve problems that current technologies are still working on solving.

For example, a paper by F. Mohammed and P. Persad on the design of a vision system for robotic applications discusses ways to ensure that vision systems for industrial use, whether for the navigation of autonomous vehicles or pick-and-place operations, are sufficiently robust and fast. In so doing, they note how the main factors contributing to errors in the outputs of

vision systems are noise (false features or electronic noise) and occlusion of features, and that a robust algorithm will need to provide correct results even when noise and such features are present. Even today, 35 years and many developments later, getting AI systems to correctly identify the features of objects or people in real life is a continuing effort for computer engineers and programmers. As Oliveira and Figueiredo (2024) note, things that humans can do without exerting much effort or specific training, such as identifying objects from a photograph, recognizing a familiar face or understanding a sentence in a noisy environment are difficult to reproduce through AI, and are only now beginning to become achievable.

AFTER THE CONFERENCE

The CCEAI took place in a time of transition for AI technologies. While expert systems had seen great success in the 1980s, towards the end of the decade, after much use in many industries, the inherent weaknesses of such systems were becoming apparent. Gupta and Nagpal (2018) note that a major flaw of every expert system is that the developer of the system had to manually collect the expert knowledge and translate it into rules that could be interpreted by the system.

This proved challenging because it increased the likelihood of error, and because expert knowledge is not well understood, in the sense that the rules to be encoded in the system may not exist, or could be contradictory, poorly written or otherwise unusable. While they could automate a lot of everyday decisions, which is of great value, expert systems therefore have several important

¹Instrumentation here refers to the engineering discipline related to the development, operation and maintenance of automated process control and measurement systems used in industrial environments.

limitations as artificial intelligence. Unlike a human subject matter expert, they do not handle ambiguity well, cannot respond creatively to new or unusual circumstances, and must be explicitly updated to adapt to a changing environment (Gupta and Nagpal, 2018).

While we do not have the full story of what happened after the CCEAI in 1989, the AI research community in several countries was facing another “AI winter”. Though rule-based AI systems were not the only type of AI being worked on at the time, expert systems had brought great hope due to their many practical areas of application, and therefore a lot more funding to the field. However, as their flaws became clear, and a lot of expert systems businesses failed in the 1980s, interest in AI waned again. Carolyn Seepersad-Bachan recalls that though they were set to continue the work after the 1989 Conference, set up a committee and did some work, it was hard to get funding for research: “People didn’t believe it could become a reality”.

Additionally, in other countries, many of the research projects started in the 1980s had to be abandoned in the early 1990s due to insufficient processor speed, the high cost of memory, and slow networking speeds, among others. Simply put, computer scientists were imagining new ways of computing and possible fields of application faster than the technology became available to make their dreams reality.

While these failures and weaknesses eventually led to rule-based systems falling out of favour, they were an important step in the evolution of AI. The development of rule-based systems contributed in many ways to the creation of modern-day algorithms

(Oliveira and Figueiredo, 2024), and their failure nudged the field as a whole from primarily valuing reasoning to valuing knowledge as the key to intelligent behaviour (McCorduck, 2022). These insights led to renewed interest in neural networks technology, which had been developed in parallel, but fell out of favour. Neural network technology was subsequently used to develop modern-day AI systems based on machine learning. Rule-based systems also live on in other ways, including to carry out specific roles in modern AI systems. This serves as a reminder that in science, failure is progress, if lessons are learned.

FINAL THOUGHTS

The CCEAI was an important expression of Caribbean scientific interest, hope and competence in a highly complex field at a historical turning point for AI technology. It serves as a reminder that the Caribbean has always had what it takes to experiment with and develop advanced technology.

While there is no guarantee of success in science, and other factors, such as funding, play into what can be achieved, the competence is available right here. The technology has developed a lot since then, and is relevant to more people, now that it is universally available. However, capacity-building and funding are needed. AI development in the Caribbean is not only possible, but a reality. Our interview with Craig Ramlal in this issue goes further into this.

Lastly, there is a need to preserve and conduct research on Caribbean AI history, including the CCEAI and its outcomes. To fully appreciate the capacity that is present in this region, more information is needed on events such as this, and their outcomes.

The history of AI technology is being told almost solely from the perspective of the United States, Europe and Japan, leaving our understanding of the Caribbean’s place and role limited. More research on the CCEAI, its presenters, participants, outcomes, and the Artificial Intelligence Interest Group that was

launched would be welcomed. There is more to uncover and recover. ■

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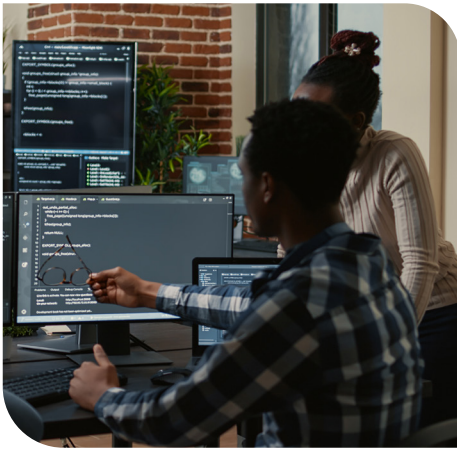
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HIGHLIGHTS FROM A YEAR OF ACTION: THE CARIBBEAN GRAPPLES WITH ARTIFICIAL INTELLIGENCE (AI)

By Lika Døhl Diouf

If 2023 was the year of generative artificial intelligence, 2024 has definitely been the year of AI governance. In the short period between October 2023 and October 2024, many big and small steps have been taken by Caribbean States to better understand and govern AI, at all levels. The year has been characterized by collaboration, within and among countries, across sectors, and across disciplines. The following summarizes some key developments.

In October 2023, the United Nations Secretary-General convened a multi-stakeholder, High-level Advisory Body on AI (HLAB) to undertake analysis and advance recommendations for the international governance of AI. From its establishment until the publication of its final report in September 2024, the HLAB conducted extensive global consultations, involving 18 deep-dive discussions, more than 50 consultation sessions across all regions, and receiving input from over 150 organizations and 100 individuals.

Also in October 2023, 20 Latin American and Caribbean (LAC) States adopted the [Santiago Declaration to Promote Ethical Artificial Intelligence](#) (Santiago Declaration). This included ministers in charge of digital and AI policies from [six Caribbean countries](#)¹. The declaration expresses a desire to deepen regional dialogue regarding the development and deployment of AI in the region. Among others, it was agreed to conduct a needs analysis on the elaboration and adoption of new legal frameworks and regulations for the design, development, and responsible use of AI. The same month, the Commonwealth AI Consortium (CAIC) adopted an [action plan](#) seeking to leverage AI tools to support small States and empower youth. Of the 11

CAIC AI “champion countries” three are from the Caribbean.

In the last quarter of 2023 and the first quarter of 2024, a flurry of background activity occurred, as evidenced by the many activities and outputs that follow. The most important development in that period was the release of the interim report of the HLAB in December 2023 [in English](#) and [in French](#).

In March of 2024, the United Nations General Assembly adopted [resolution 78/265](#), which was the first to comprehensively address AI as its own topic. The resolution was co-sponsored by 123 countries, including five from the Caribbean. It aims at seizing the opportunities of safe, secure and trustworthy AI systems for sustainable development, while recognizing the risks and governance challenges associated with AI. The resolution promotes inclusive, multi-stakeholder collaboration in the national and international governance of AI, and the use of AI to achieve the SDGs. Also in March, the Caribbean Telecommunications Union (CTU) and the University of the West Indies (UWI) at St. Augustine co-organized a [webinar on AI opportunities and threats](#) for the Caribbean. The webinar provided a platform for interdisciplinary dialogue

among academia, technology experts and the private sector, and sought to inspire future research and collaboration in the field of AI.

In May, the [Antigua and Barbuda Agenda for SIDS](#) (ABAS) was adopted following the [Fourth United Nations Conference on Small Island Developing States](#) (SIDS). States committed to strengthening data collection, storage and analysis, including by enhancing science-based and innovative approaches, including AI. They also committed to assisting SIDS in developing tailored policies and legislation to create an enabling environment to among other things leverage AI. Later in May, the HLAB on AI [held a consultation](#) with the Group of Latin American and Caribbean Countries (GRULAC). Some of the concerns discussed include the deepening AI divide, the technological and economic dependence of the region, and an inability to protect the population and local enterprises from external corporations. States expressed the need for a regional AI governance framework, supported the creation of a public international fund to enhance AI opportunities in the region, and stressed the need to ensure sovereignty over the data the region produces and exports.

¹Cuba, the Dominican Republic, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and Suriname.



VIRTUAL EGM

Harnessing Artificial Intelligence (AI) and Digital Government: Perspectives for Caribbean SIDS

In June, The [Global Index on Responsible AI](#) was published. The index, which is discussed in more detail in the next article, measures government commitments and country capacities for responsible AI governance through a social, technical and political lens. The index covers [nine Caribbean countries](#)², the data for which was collected by local researchers in each country.

In July, the General Assembly adopted a second resolution on AI, this time specifically focusing on international cooperation on capacity-building related to AI. [Resolution 78/311](#), which was co-sponsored by 143 States, including eight from the Caribbean, specifically addresses the Sustainable Development Goals (SDGs), and sets out the principle of “AI for good for all”. It names the need and urgency

to narrow the disparities and assist developing countries in AI capacity-building, so that they will not be left further behind. The resolution also sets out a vision of a people-centred, inclusive and development-oriented information society, and encourages increased financing and technical assistance to developing countries.

Later in July, the inaugural five [IR Artificial Intelligence Annual Research Conference](#) was organized by [UWI Five Islands](#). The Conference sought to foster collaboration on AI adoption strategies, addressing AI-related risks, and adopting ethical practices. The Conference brought together regional and global experts on AI to explore how AI can drive sustainable development in the Caribbean, and sought to catalyse transformative collaborations to shape

the future of the Caribbean.

August was a busy month. Four Caribbean countries³ were among the signatories of the [Cartagena Declaration](#), which addresses issues related to AI governance, the construction of AI ecosystems, and the promotion of AI education in an ethical and responsible manner in Latin America and the Caribbean (LAC). Related to governance, the Declaration stresses that any international AI governance framework has to consider the regional particularities of LAC, promote the participation of LAC countries in its design and implementation, and pay particular attention to closing gaps in access, talent, data, infrastructure and regulatory capacity. The same month, CAIC launched an AI policy toolkit for Commonwealth policymakers called

²Antigua and Barbuda, Barbados, Belize, the Dominican Republic, Guyana, Haiti, Jamaica, Saint Lucia, and Trinidad and Tobago.

³Curaçao, the Dominican Republic, Guyana, and Suriname.

[StrategusAI](#). The AI-driven policy tool is meant to support policymakers in crafting comprehensive government policies, while drawing on global good practices. Once piloted, it will be made available to all 56 Commonwealth countries. Still in August, the CTU held the [20th Caribbean Internet Governance Forum \(CIGF\)](#) in Georgetown, Guyana. Among other issues, CIGF discussed AI-related needs, how to foster Caribbean AI entrepreneurship, AI use in the private sector, and the draft of the Global Digital Compact, discussed below.

If August was busy, then September was hectic! In September 2024, ECLAC organized an Expert Group Meeting entitled [“Harnessing Artificial Intelligence and Digital Government: Perspectives for Caribbean SIDS”](#). The meeting included panels on advancing the adoption of AI in LAC and on moving from digital government to smart government. It discussed ways of engaging on AI within the Caribbean and with Latin America, the Caribbean AI Roadmap, the Readiness Assessment Methodology related to ethical AI (both discussed below) and how to harness AI to create public value in the Caribbean, among others. Experts present also discussed the draft ECLAC study entitled “Caribbean AI readiness: An exploratory review”, which is in print.

The [final report of the HLAB](#) on AI was also published in September, in all official languages. The Body provided seven key recommendations regarding the global governance of AI: (1) To establish an international scientific panel on AI; (2) to launch a twice-yearly intergovernmental and multi-stakeholder dialogue on AI governance;

(3) to create a standards exchange, to among other tasks identify where new AI standards or definitions are needed; (4) to set up an AI capacity development network to make available expertise, compute and AI training data to key actors; (5) establish a global, independent fund for AI to facilitate access to AI enablers; (6) create a global AI data framework to support the global governance of AI training data; and (7) to establish an AI office within the Secretariat of the United Nations.

On 22 September, the General Assembly [unanimously adopted](#) the [Global Digital Compact \(GDC\)](#) as part of the [Pact for the Future](#) at the [Summit of the Future](#). Inclusion is a cornerstone of the GDC, and it seeks to close the digital divides within and between States and “advance an equitable digital environment for all”. Objective 5 of the GDC, “Enhance international governance of [AI] for the benefit of humanity”, recognizes the need for a balanced, inclusive and risk-based approach to the governance of artificial intelligence. States also recognized the urgent need to inclusively assess and address the potential impact, opportunities and risks of AI systems on sustainable development and the well-being and rights of individuals. The GDC took on board several recommendations of the HLAB on AI, including the establishment of a multidisciplinary independent scientific panel on AI; to initiate a global dialogue on AI governance; and while not an AI office, to establish an office to realize the inclusive platform for digital cooperation set out in the DGC, building on the current [Office of the Secretary-General’s Envoy on Technology](#).

On the margins of the Summit of the Future, the [CAIC Steering Committee](#) convened its second meeting. The meeting aimed to identify areas of collaboration and resource mobilization for AI initiatives to be discussed at the [Commonwealth Heads of Government Meeting \(CHOGM\)](#). Some of the initiatives identified include an AI entrepreneurship programme, an AI incubator, StrategusAI, the Commonwealth AI Academy and an AI compute initiative.

Also in September, UNESCO, the Ministry of Information and Communication Technologies and Utilities of Antigua and Barbuda, and UWI Five Islands jointly organized a [validation workshop](#) for the [UNESCO Readiness Assessment Methodology \(RAM\)](#). The RAM is a tool developed to support States in their implementation of the UNESCO Recommendation on the Ethics of AI, and provides detailed insights into different dimensions of AI readiness. During the workshop, which included participants from different sectors, participants collaborated to refine and validate the RAM for use in Antigua and Barbuda, and provided suggestions on how it could be reinforced.

Early in October 2024, UNESCO and CAF held the [Second Ministerial Summit on the Ethics](#) of AI in LAC, in Montevideo, Uruguay. The Summit was held to follow up on the commitments made in the Santiago Declaration, discussed above. A [Roadmap for Ethical AI for LAC](#) was adopted at the summit.

Also in October, UNESCO published the [Needs Assessment for Artificial Intelligence, Digital transformation](#)

[and Open Data for Small Island Developing States](#). The report reveals significant disparities in AI and data readiness among SIDS, noting that 71.2% of SIDS lack quality data for AI. Of the 28 countries and territories that participated in the survey, 13 were from the Caribbean, providing much needed insight into foundational knowledge of AI and the supporting data ecosystem, current level of usage, and areas requiring improvements within the subregion.

Towards the end of October, CHOGM was held in Apia, Samoa. The [Leaders' Statement](#) from the CHOGM recognized the potential of AI for sustainable development and committed to fostering ethical and inclusive growth in AI and digital technologies across the Commonwealth. The need to bridge the global digital divide and to ensure safe, secure, trustworthy, human-centric, responsible, interoperable and inclusive development of AI and transformative technologies was also stressed.

Finally, from 29 to 31 October 2024, the [AI Global South Summit](#) was held in Saint Lucia. The Summit explored how AI and emerging technologies can support cultural preservation and economic growth. The summit discussed the socio-political [dimensions of AI within the Global South](#), reflected on how AI influences identity, culture, and the essence of the human experience, addressed the labour and ethical implications of AI, and critiqued global data exploitation, among other topics.

This summary hopefully serves as evidence and a reminder that the Caribbean is not a passive recipient of AI technology, capacity-building,

theory or governance initiatives. Countries and territories across the subregion are participating actively in advancing the Caribbean's AI future. Though more has been achieved in the past year than would fit in this article, there remains much to do. The year 2024 has served, in many ways, to provide a "common understanding" of the issues surrounding AI, as intended by the HLAB on AI. Hopefully, the coming years will bring us closer to AI governance for humanity, by establishing a common ground and securing common benefits.

There is already evidence to that effect. For example, from 7 to 9 November 2024, the latest iteration of the Digital Agenda for Latin America and the Caribbean (eLAC2026) was adopted during the [Ninth Ministerial Conference on the Information Society in Latin America and the Caribbean](#), which included delegations from eight Caribbean countries⁴, as well as the Secretary-General of the Caribbean Telecommunications Union. Comprising three axes, eLAC2026 centres on strengthening and promoting meaningful connectivity and digital infrastructure; digital governance and security; and fostering innovation, emerging technologies and artificial intelligence for sustainable development. The new eLAC2026 is also more action-focused than its predecessors, prioritizing concrete projects to make real progress towards the established goals. Also in November, UNESCO launched the revised version of the [Caribbean AI Policy Roadmap](#). The Roadmap, which builds on the [2021 Roadmap](#), takes into account the developments since the COVID-19 pandemic and was the result of extensive consultations

throughout the Caribbean. The four pillars of the Roadmap include: (1) Culture and Creativity; (2) Governance and Transformation; (3) Education and Upskilling; and (4) Resilience and Sustainability.

AI governance has a lot of momentum now, including right here in the Caribbean, and it will be exciting to see what 2025 and beyond will bring. ■

⁴Antigua and Barbuda, Barbados, Cuba, the Dominican Republic, Grenada, Jamaica, Saint Vincent and the Grenadines, Trinidad and Tobago.



“AI HOLDS A UNIQUE PROMISE OF A FUTURE WHERE TECHNOLOGY AND HUMANITY ADVANCE TOGETHER” – CRAIG RAMLAL, UN AI ADVISOR

By Lika Døhl Diouf

Last year, the United Nations Secretary-General, António Guterres, established a multistakeholder High-Level Advisory Body on Artificial Intelligence (AI). The Advisory Body was aimed at building a global, scientific consensus on the risks and challenges of AI, identifying ways to harness AI for the Sustainable Development Goals (SDGs), and strengthening international cooperation on AI governance.

Since then, a lot of work to advance international cooperation on AI has taken place: the Advisory Body published its [interim report](#) in December 2023 and [final report](#) in 2024, two General Assembly resolutions focused on AI were passed, and the General Assembly passed the Global Digital Compact, a comprehensive framework for the governance of digital technologies and AI.

In the 2023 FOCUS Magazine titled “[Artificial Intelligence for Caribbean Sustainable Development](#)”, we interviewed Craig Ramlal, a Trinbagonian senior lecturer at the University of the West Indies, who had been recently appointed to the AI Advisory Body. One year later, we have caught up with him to hear about what the past year was like, and his thoughts on and hopes for the future. The interview has been edited for length and clarity.

Now that the final report is complete, how do you feel?

I am very happy with the result of the final report; it was a highlight in my career. I am pleased that several of our recommendations have been taken up in the Global Digital Compact during the Summit of the Future.

What were the unique challenges or advantages involved in collaborating with so many colleagues from different regions, disciplines and sectors?

Inclusive AI governance is arguably one of

the most difficult governance challenges that humanity will face. An analogous example is climate change which has evolved from a niche concern to a global challenge. Diverse perspectives on how AI should be governed was absolutely necessary since what can work for one region may not necessarily work for another. The UN Advisory Body on AI was explicitly set up to be inclusive and multi-stakeholder. What I found to be fantastic about the process was how quickly we were able to reach a level of unanimity on the recommendations.

You received a lot of input for this report, both written and from meetings with stakeholders around the world. How did you work to include these many diverse perspectives?

Well, we were quite busy. The input for the report included 18 “deep dives” on issue areas with more than 500 expert participants, more than 250 written submissions from more than 150 organizations and 100 individuals. We also held an AI risk pulse-check with around 350 expert respondents as well as an AI opportunity scan. There were regular consultations with and briefings of Member States, UN entities and other stakeholder groups during more than 50 global engagements. As well as more than 100 virtual discussions in separate forums from across the world. Together, the secretariat and Advisory Body condensed this information, and over the numerous plenary and working group virtual sessions produced the final recommendations.

How does the report balance addressing global AI governance challenges and the unique circumstances of individual countries?

AI’s impact is global, and the report acknowledges this fact, emphasizing the need for international cooperation to fill the current global governance deficit that will minimize the risk of an unsafe and unjust future. However, it also recognizes that each country has unique circumstances, capabilities, and priorities regarding AI development and implementation since the technology, regulatory, economic, and societal landscapes vary by country. The report tries to balance these two by basing the philosophy of the recommendations into a common understanding, common ground, and common benefits. At the national level, the report highlights how these governance structures must be inclusive and adaptive, engaging diverse voices and accommodating different stages of AI readiness and regulatory capabilities.

What do you think are the largest challenges ahead for a diverse region like the Caribbean?

From what I’ve seen, the Caribbean’s major challenges would include equitable access to AI resources, robust frameworks for mitigating AI-driven economic disruptions, risk of widening digital divides, brain drain and maintaining cultural identity. The Caribbean needs to develop a baseline socio-technical capacity to understand, develop and properly



use AI and focused coordination to harness these technologies in support of sustainable development. Specifically, this would include initiatives for capacity building, construction of a sustainable AI ecosystem that would incentivize talent to remain in the region and research into building AI systems for our contexts.

Throughout the final report, there are references to supporting linguistic and cultural diversity. What are the main ways in which AI can help or hinder this goal?

I think AI does both. It should be a region's right to preserve their own culture. Ancient civilizations house millions (possibly tens of millions) of untranslated ancient manuscripts in private libraries. The human resources do not exist to record and translate all these manuscripts manually. AI brings the promise of highspeed, high-quality, script reconstruction, searchable archiving and translation that can save these documents from being irretrievably lost.

Transplanted populations, especially

post-colonial slavery and indentureship diasporas suffer from deculturalization principally driven through language loss. This can be seen particularly in old diaspora populations across the world: Fiji, Mauritius, the Caribbean and the United States. As the economies of Africa and Asia grow, they are beginning to modernize their modes of cultural transmission, especially through digital services. These often remain inaccessible to diaspora communities which have suffered language loss. AI can make all these resources accessible to diaspora populations through translation and other digital means. AI can also give marginalized populations the ability to easily and (relatively) cheaply create high quality digital artefacts for cultural propagation. This is especially important in the cases of cultures on the verge of collapse such as Amerindians in the Caribbean.

[On the other hand,] although AI holds a lot of promise for increasing accessibility to cultural forms, because AI operates statistically, its inherent majority bias can lead to cultural homogenization. Researchers from my lab have been involved in projects

involving the restoration of old images and videos as a mechanism for cultural preservation. There are still many unintended artefacts¹ when leading restoration tools are used for cultural footage from the Global South. Some examples of this include Generative AI having challenges with darker skin tones, AI's unfamiliarity with religious symbols or cultural patterns, and challenges with the facial features of folks from the region.

What is next for you? What AI-related work will you be engaging in here in the Caribbean in the coming year?

There are three things that I would be focusing on for the Caribbean region for the coming year:

1. In our region we must recognize that we do not have the high-performance computer infrastructure to develop very large models, nor should we attempt to develop these types of systems, given their current issues with energy consumption, environmental impact and issues with

¹Unintended artefacts refers to errors in the output produced by an AI model, content that diverges from reality. For images, this may include distorted facial features or inaccurate number of fingers, and for text, this may include unintentional misinformation, sometimes referred to as "hallucinations" or "confabulations".

Craig Ramlal

Head of the Control Systems Group, The University of The West Indies at St. Augustine

Member of the UN Secretary-General's High-level Advisory Body on AI

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ethical sourcing of massive amounts of data. What we need is research into the hardware, theories and software to develop smaller capable models and newer modular architectures that are trained on Caribbean data. The silver bullet would be safe, faithful, capable AI systems that can be integrated into government datacentres or run on personal computers without much modification to existing infrastructure. My lab, the Intelligent Systems Laboratory (<https://intelsyslab.com/>), has been

retooled to fulfil this, and in the initial instance, to open-source these systems to the region. In fact, we intend to release and offer the first version of an AI system we are currently working on as a Digital Public Good.² The models we build are not fine-tuned models from commercial sources, but Caribbean models built from scratch, completely owned by Caribbean people. I believe this is a needed first step to catalyse AI adoption, capacity and development in the region.

2. Unlike the African Union's Continental AI strategy, the OECD Council Recommendation on AI and the European Union's AI Act, the Caribbean does not have a cohesive regionally harmonized policy on AI that could form the guidelines and recommendations for each nation's AI strategy. UNESCO has done extensive work in mapping out what a Caribbean AI policy roadmap could look like. In the Caribbean we need to form a position on AI that represents our culture and ideals. I look

²Digital public goods (DPGs) are open-source software, data, AI models, standards, and content that are intended to contribute to sustainable digital development.

forward to supporting the next phase of what the recommendations and guidelines agreed by the member States could look like.

3. Immediately, we need to build capacity in AI. Our objective should be to create a Caribbean civilization of well-rounded individuals who are versed in the application of AI and understand its risks and benefits. Through the Department of Electrical and Computer Engineering in UWI St. Augustine. We have developed a set of postgraduate AI programmes that can take graduates from any first degree all the way to a PhD in AI. I think that this is the first step to developing the capacity in building AI tools. The next step should be to develop short courses to upskill the workforce, implement public knowledge dissemination strategies on AI, and integrate AI into other fields of study.

Where in the space of AI would you like to see the Caribbean?

In most of my travels, discussions around AI often focus on governance and application, yet we tend to overlook the fundamental fact that AI is, at its core, a technology within our reach to develop, and whose future we can guide.

I would like the Caribbean to become the research hub for the development of sustainable AI systems. This should be our contribution to the global AI space. I would like these systems to be adopted into our sectors such that we benefit from AI-driven solutions for local economic and social needs especially providing systems that aid with disaster management and climate resilience. I would like to see more cross-border collaboration in our region with incentives for innovation and capacity building networks.

Do you feel optimistic about

humanity's future with AI?

I do. The adoption of the Global Digital Compact was a milestone that solidified humanity's intention to secure a future with AI where human rights is at the centre of AI governance. I am optimistic to see what follows next and how we can contribute to this evolving narrative. AI holds a unique promise of a future where technology and humanity advance together, guided by humanity's shared values and aspirations. ■



THE GLOBAL INDEX ON RESPONSIBLE AI: REVIEW AND POLICY RECOMMENDATIONS FOR CARIBBEAN COUNTRIES

By Lika Døhl Diouf

This year, the Global Center on AI Governance (GCAIG), based in South Africa, released the Global Index on Responsible Artificial Intelligence (AI) (GIRAI).

This first edition of the index, which seeks to provide globally representative data on the steps countries are taking to prepare for the challenges and opportunities that AI presents, covers 138 countries. This includes [nine Caribbean countries](#), namely [Antigua and Barbuda](#), [Barbados](#), [Belize](#), the [Dominican Republic](#), [Guyana](#), [Haiti](#), [Jamaica](#), [Saint Lucia](#) and [Trinidad and Tobago](#).

As a multidimensional tool based on a set of human rights-based benchmarks, the GIRAI measures government commitments and country capacities, using a social, technical and political lens. The international community has agreed that AI should be designed, deployed, used and governed responsibly, including by adopting the UNESCO Recommendation on the Ethics of Artificial Intelligence. The stated aim of the GIRAI is to contribute to translating the various international commitments into “real world impact”, by measuring and tracking the progress of responsible AI efforts worldwide. For the Caribbean, where only one country has adopted an AI strategy as yet, the report provides interesting insights on the strengths and weaknesses of the existing policies and practices of other countries. For example, while 39% of the 138 assessed countries have adopted

Figure 1: Pillars of the GIRAI and relevant definitions



Source: Author’s elaboration based on GIRAI. Icons by Freepik.

national AI strategies, it is noted that most are not comprehensive and lack enforceability: As a result, the GCAIG notes in a press release, “AI governance remains more theoretical than practical, falling short of ensuring responsible AI deployment”. The index also notes that most countries have not made significant efforts to ensure women and gender minorities are not negatively affected by AI, despite increasing

awareness of the relevant issues. Taking note of these general issues could support Caribbean policymakers in developing AI policies that support responsible and human rights-based AI development, deployment and use.

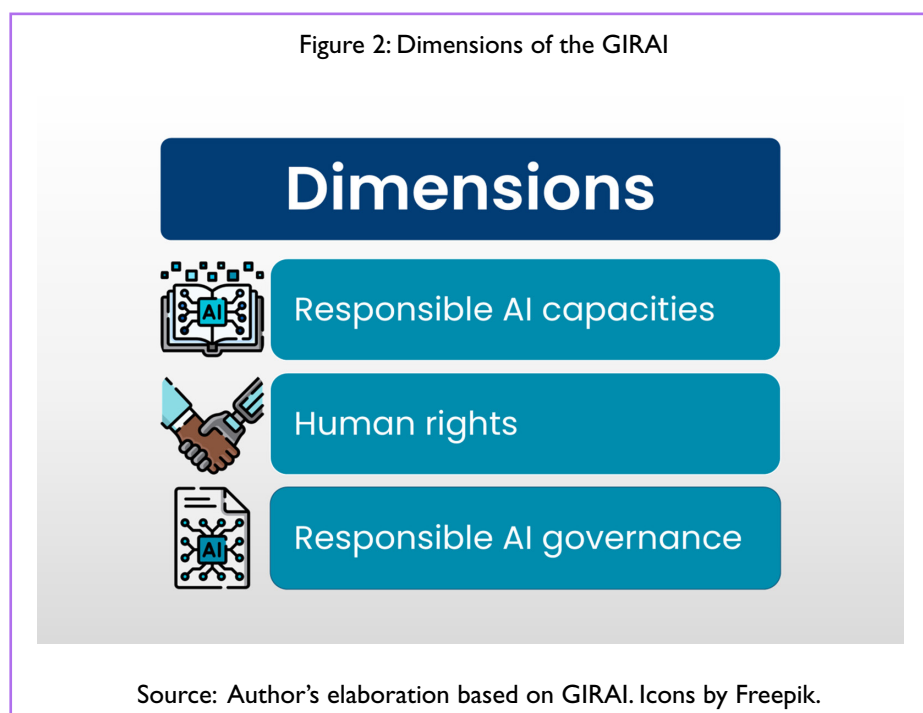
At present, however, Caribbean countries are lagging behind on the index. Overall, out of 100 possible points, the highest scoring country in

¹Official data collected by the Economic Commission for Latin America and the Caribbean; aggregates are weighted averages.

the world, the broader LAC region, and the Caribbean received scores of 86.16 points (the Netherlands), 44.42 points (Brazil), and 23.18 points (the Dominican Republic), respectively. The Dominican Republic, at rank 50 of 138 countries is the only Caribbean country in the top half of the scoring table. The remaining eight countries all score less than 7 of 100 possible points. Analysing the [methodology](#) and [openly available data](#) from the GIRAI, it is possible to identify what activities are ongoing and which areas need to be strengthened in the Caribbean.

The GIRAI framework defines “responsible AI” as AI being designed, developed, deployed and governed in a way that respects and protects all human rights and upholds ethical AI principles through the entire AI lifecycle and value chain. The GIRAI requires all actors involved in the national AI ecosystem to take responsibility for the human, social and environmental impacts of their decisions. For that reason, it assesses the work done by both state and non-state actors (Figure 1).

Though most countries have not adopted any frameworks related to responsible AI, both Caribbean governments and non-state actors are engaging in activities related to one or more of the thematic areas assessed under the GIRAI. Jamaica scores the highest on government actions taken, and Guyana on actions by non-state actors. To be assessed, these actions must tie in with one of three dimensions (Figure 2), each of which consists of several thematic areas. Overall, Caribbean countries score highest on “Responsible AI Capacities”, which considers thematic areas such as competitions authorities, public sector skills development



and international cooperation. They score lower on the “Human Rights and AI” dimension, which covers seven thematic areas, including gender equality, data protection and privacy, and children’s rights, among others. Lastly, Caribbean countries score the lowest on the “Responsible AI Governance” dimension, which includes the largest number of thematic areas, including a national AI policy, impact assessments, several ethical principles, public procurement, and access to remedy and redress. Because the Dominican Republic has a national AI strategy that covers several of the thematic areas, it scores the highest on all three dimensions. Beyond that, Jamaica scores the highest on the Human Rights and AI and Responsible AI Governance dimensions, and Saint Lucia on Responsible AI Capacities.

Looking at the Caribbean countries as a whole, most government and non-state

actor activities relate to human rights, followed by capacities, then governance (Figure 3). Of the human rights-related activities, the majority were concerned with public participation and awareness raising, followed by activities related to bias and unfair discrimination. The two least considered thematic areas were cultural and linguistic diversity, followed by children’s rights at the bottom.

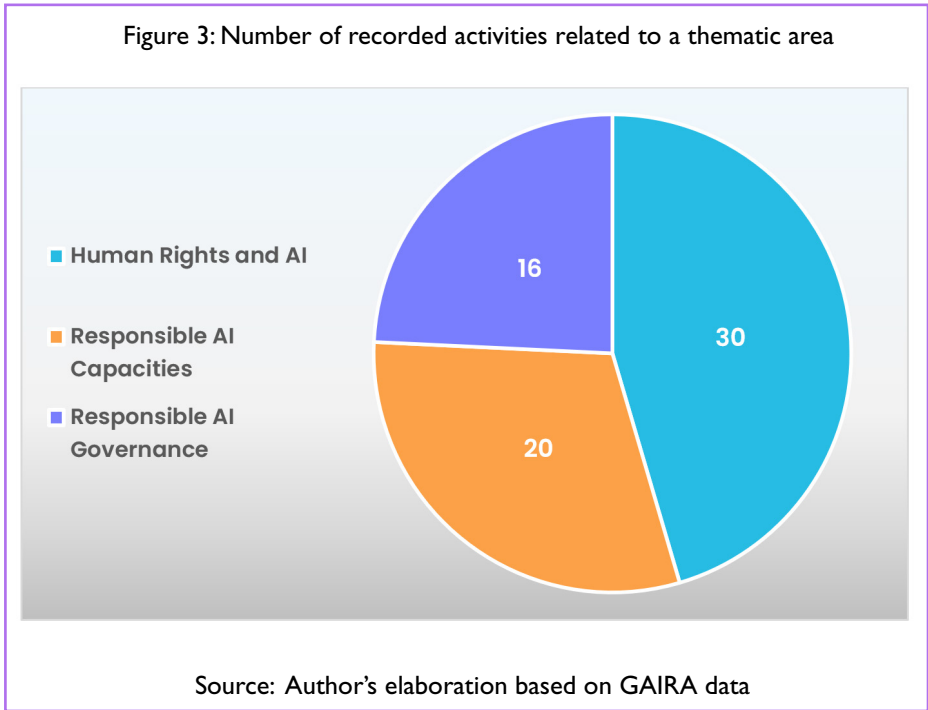
²Note, WTI is the benchmark oil price for the Western Hemisphere, and Brent is the benchmark oil price for the Eastern Hemisphere.

³Official data collected by the Economic Commission for Latin America and the Caribbean.

Regarding responsible AI capacities, international cooperation was the most active thematic area, with all nine countries receiving marks for endorsing the UNESCO Recommendation, and some additional initiatives. Some public sector skills development initiatives were also recorded, but none related to competition authorities. Lastly, related to responsible AI governance, the GIRAI records four activities related to national AI policies, with three being by the Governments of Belize, the Dominican Republic and Jamaica, and by academia in Guyana. Four activities were also recorded related to transparency and accountability, by academia and civil society actors. Somewhat alarmingly, none of the recorded activities appear to have addressed the safety, accuracy and reliability of AI systems, or access to remedy and redress.

While the Caribbean appears to have a long way to go related to the development of governance frameworks for responsible AI, it is highly encouraging that a variety of stakeholders is involved in efforts to make responsible AI in the Caribbean a reality. Additionally, as noted in the previous article, Caribbean countries are actively involved in AI debates at the global, regional and subregional levels. The adoption of the revised Caribbean AI policy roadmap also foreshadows significant developments to come in this area in the near future.

As policymakers seek to develop national policies and programmes to advance a responsible AI future, they could benefit from analysing the strengths and weaknesses of other countries' policies. In particular, they should seek to be comprehensive and enforceable, and to take account of



the gender dimensions of AI. There is a clear need to strengthen the overall AI ecosystems in the Caribbean, while maintaining the current diversity of actors. Further activity is particularly needed with regard to children's rights; cultural and linguistic diversity; competition authorities; the safety, accuracy and reliability of AI systems; and access to remedy and redress. The variety among these issues emphasizes the need for continued multi-stakeholder and interdisciplinary cooperation on AI in the subregion. ■

SOURCES

[The Global Index on Responsible AI](#)

[GIRAI Caribbean results visualizations](#)

[Methodology of the GIRAI](#)

[Global Center on AI Governance \(GCAIG\)](#)

GCAIG, Press release (19 June 2024), "AI Governance Fails to Deliver: Global Index on Responsible AI Reveals Critical Gaps"

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2024

OCTOBER

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