Perspectives on Sénégal AI Strategy and Roadmap 2028
Opportunities and Challenges

So far, Senegal officially launched AI national strategy and roadmap for AI in 2028. The Ministry of Communication, Telecommunications, and the Digital Economy (MCTEN) spearheaded the effort with involvement from Senegal's broader digital ecosystem. It combines the expertise of AU-EU Digital for Development (D4D) Hub, Expertise France, GIZ, and Agence Belge de development (ENABEL). The roadmap aims to shape the future of Senegal's digital landscape and make a meaningful impact on society through its four aspirations. These aspirations aim to integrate and develop the youth, while positioning Senegal in West Africa and the world. The roadmap prioritizes responsible AI and upholding Senegalese digital sovereignty.

AI as a Locomotive for the Economy and Creating Job Opportunities for Youth

Plan Senegal Emergent (PSE) relies on AI as a driving force

Senegal plans to use AI to boost economic growth, create jobs for its youth, and enhance digital sovereignty. Before discussing how AI will drive the ambitious Plan Senegal Emergent (PSE) towards 2035, let us first understand what the PSE is all about. PSE, launched by the Presidency authority, includes three axes.

1. The Structural Transformation of the Economy

    By consolidating existing engines of growth and cultivating new sectors, we can generate wealth, jobs, and social inclusion, while also attracting investments and expanding exports.

2. The Promotion of Human Capital

    According to human capital theory, investing in education is crucial for economic growth and improving quality of life. The health and emotional wellbeing of individuals are important components of human capital[1], which can be influenced by living conditions. A

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[1] https://scholar.harvard.edu/files/goldin/files/goldin_human_capital.pdf

sustained fight against social inequalities can be attained while preserving the resource base and promoting the emergence of viable territories.

3. Good Governance

Good governance plays a crucial role in creating and maintaining employment opportunities for youth. It promotes job opportunities for young people through protecting their rights and the upholding of the law. Governments can implement and uphold policies and regulations that encourage a beneficial business environment. This strategy will give young people better opportunities for a fulfilling future by investing in skills development and including them in decision-making.

AI for skilled youth in workforce

According to FAO[2], youth represent 55% of the 17 million population, with an unemployment rate of 18.60 percent. Unemployment rates are high, particularly among women at 22 percent and young people at 16 percent. Low employability linked to the mismatch between training and labor market needs, limited access to social security, and low incomes remain a significant challenge.

Senegal is building up skills in data science (SD) and AI, particularly among young women, by directing training towards the SDGs, inclusiveness, environmental and ethical responsibility and digital entrepreneurship (human capital). The aim of the proposed quantitative plan is to train approximately 90,000 Senegalese in SD and AI by 2028.

Establish with the Professional and Technical Training Financing Fund (3FPT) standard continuing training programs on AI for working people, focused on the effective and risk-free use of AI in professions and organizations.

The dynamics of innovation and entrepreneurship on AI, the primary aim of this national strategy, three specific objectives were identified, then broken down into nineteen (19) actions in total contributing to their achievement:

- Develop research in data science and AI
- Support the ecosystem of innovation and entrepreneurship in data science and AI
- Accelerate the adoption of AI in the socio-economic sectors and the public sector

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[2] https://www.fao.org/rural-employment/work-areas/youth-employment/ica-programme/senegal/en/#:~:text=Unemployment%2C%20especially%20among%20women%20(22,low%20incomes%20remain%20significant%20challenges.

AI in Favor of Well-being

"We know that today artificial intelligence is a revolutionary technology that we call the 4th revolution after the internet and which is a major asset for our country," said Moussa Bocar Thiam, Minister of Communication, Telecommunications and of the digital economy, during the official launch of the national strategy on artificial intelligence[3].

Senegal's strategy focuses on harnessing AI to improve the quality of life of its citizens and contribute to the achievement of the United Nations Sustainable Development Goals (SDGs). AI can be a force for positive change in healthcare, education, trade, and services. The strategy requires strengthening and multiplying data science and AI skills to attain this aspiration. The training that targets the SDGs, inclusiveness, environmental responsibility, ethical responsibility, and digital entrepreneurship is especially relevant for young people and women.

Senegal, a Leader of Technological Collaborations (West Africa, Francophone Africa in particular) Inspired by the Ubuntu Spirit

Senegal believes AI can promote regional integration by embodying Ubuntu values such as fraternity and humanity. "AI must generate regional and international synergies and Senegal must be exemplary," as it is mentioned on page 4 on the AI strategy. Our goal is to establish an AI hub in West Africa and possibly extend it to North Africa. This will involve collaborating with neighboring countries to share talents, data, resources, and solutions.

Senegal needs to train local talent and attract external talent to compete with Anglophone countries like South Africa, Ghana, Nigeria, and Kenya in the digital landscape. The strategy aims to train roughly 90,000 Senegalese people in sciences of Data and AI by 2028.

 This ambitious aim includes all trades in all socio-economic sectors, as well as covering the capacity needs of public governance (judicial, executive and legislative power).

Trustworthy AI

Senegal is committed to developing and using AI responsibly and ethically. Measures are in place for AI to respect national sovereignty and maintain high reliability standards. The ethical principles set by organizations like UNESCO and ACHPR resolution 473 should be considered in digital legislation.

Senegal took three major actions:

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[3] https://lobservateur.info/article/107861/afrique/senegal-une-strategie-pour-lintelligence-artificielle

1. Creating a normative framework that reflects the values of Senegal and regional context, as well as international levels.
2. Establish an institutional framework for steering and regulation.
3. Set up the operational system for responsible, trustworthy and frugal AI.

Challenges

Infrastructure and Internet Accessibility

 The digital divide between urban and rural areas is one of the most persistent problems. While internet access has become increasingly widespread in cities like Dakar, many rural areas still lack the infrastructure to support reliable and affordable internet connections.

Senegal ranked 92nd in the world on Internet connectivity, according to the annual Digital Quality of Life Index (DQL) study published on Wednesday, October 12, 2021. Senegal is ahead of only a few countries affected by the ranking, numbering 110. In Africa, Senegal is in 9th place, out of 19 countries covered by the study. The Research (DQL) also shows that the quality of the Internet in Senegal is relatively poor. Its broadband speeds are 87th worst in the world (26.27 Mbps), while mobile connection ranks slightly higher, 79th (22.53 Mbps). Senegal's broadband growth is impressive, outperforming South Africa according to the report.

During political crises or protests, Senegal, like Mauritania, suspends mobile data internet and limits access to Wi-Fi only. This negatively affects online commerce and several other sectors.

Education

Despite reforms starting in 2000 to improve the public education system, public schools still face challenges such as lack of laboratories and facilities. Besides overcrowding comparing to elitist Catholic and secular private schools. In higher education, cutting-edge private establishments are characterized by innovative capacities very distant from the "traditions" of public universities. With the networking of most large private establishments, accompanied by internationalization strategies, online education offers, STEM courses, AI and data science.

Private sector education ensures training that matches job market needs in languages, computer science, entrepreneurship, and artificial intelligence. This widens social gaps and restricts access to quality education to only those who can afford it.

Legal Framework and Legislation

The body of text relating to the digital sector, created over a decade ago, disregards ethical principles from UNESCO and the African Commission of Human and Peoples' Rights (ACHPR)

Resolution 473. A more current study on human and peoples' rights and emerging technologies in Africa is necessary.

According to Article 19, study on the state of Internet freedoms in Senegal which highlight a number of areas that fall significantly below the international standards and which could have a serious impact on freedom of expression in Senegal. Of particular concern is the Cybercrimes Law; which imposes many content limitations on freedom of expression that are vaguely worded and potentially very wide ranging. The Decree on Encryption imposes several requirements, including seeking commission permission, for the provision, import, export, and, in certain cases, use of encryption software.

In general, there is a lack of legal framework and legislation regarding using AI in Senegal.
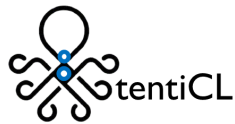
Recommendations

- Invest in education and training programs to develop a skilled workforce in AI technologies focusing specially on marginal cities far from the capital, Dakar, have high unemployment and low levels of education, as well as problems in communications infrastructure.
- Inviting universities and research institutions to collaborate in establishing AI research and development centers to expedite understanding of artificial intelligence policies and raise awareness of responsible technology usage.
- Partnership formed by the government, private sector, and academia. Public-private partnerships This collaboration can help leverage resources and expertise from various sectors.
- Call and encourage businesses and traders to invest in AI research and Tech-industry and working to change classic investment models such as purchasing land and construction, explaining the importance of investing in technology and the future of the digital economy.
- Create a supportive environment for AI startups by providing funding, mentorship, and access to resources and Organize competitions, hackathons, and other events to encourage innovation in AI.
- Increase public and digital ecosystem awareness of AI ethical considerations and establish data governance policies for ethical and responsible use of data in AI.
- Establish a National AI Ethics body work in implementing legal framework for AI use and optimize AI's beneficial impact while reducing risks and adverse outcomes.

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Maha Jouini: AI policy researcher at Global Index on responsible AI, AI and data policy advisor at TENTICL Company. She serves as ambassador as ambassador in Google's Women Techmakers initiative. She believes in AI's impact on business development and delivers mentoring sessions to women and youth in Africa. Formerly part of Women Innovators Programme (WIP) launched by UNDP Arab region states, she is now a Mentor at Incubateur Paris 2024 launched by L' Agence Française de Développement.
She was part of the Global responsible AI hackathon 2023 launched by Women in AI Ethics Initiative.
In 2022 UNESCO and The Asfari Institute for Civil Society and Citizenship at AUB consider Maha Jouini among top 20 woman change makers pioneers in MENA. Thanks to her commitments to women's digital rights and economic inclusion.

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