

ARTIFICIAL INTELLIGENCE IN ALGERIAN ELECTIONS: NAVIGATING THE IMPERATIVE OF DIGITAL TRANSFORMATION THROUGH ETHICAL AND LEGAL GOVERNANCE



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Abstract:

The worldwide adoption of digital transformation has brought artificial intelligence (AI) into electoral processes to enhance transparency and efficiency and improve credibility. The Algerian government started Digitisation after creating the Independent National Electoral Authority (ANIE) in 2019 and passing the 2021 Organic Law on Elections. AI technology provides benefits for election management through voter list optimization and irregularity detection and improved communication systems and secure data handling but it creates multiple legal and ethical problems. The implementation of AI in elections faces multiple challenges. The research investigates Algerian AI election adoption methods through international guidelines.

Key words: Artificial Intelligence; Elections; Algeria; Ethical Governance; Digital Transformation.

Introduction:

The electoral process in the world is undergoing radical transformations due to the digital revolution. Elections are no longer a traditional practice based on manual voting and human counting, but have become a space for employing artificial intelligence (AI) technologies that enable the management of huge blocks of data, analysing voter trends, and ensuring faster and more accurate counting of results. However, despite its benefits, this technology raises ethical and legal issues related to transparency, privacy protection, and avoiding manipulation of results. The electoral process in the world is undergoing an accelerated transformation due to the digital revolution, with artificial intelligence playing an increasing role in vote counting, analysing electoral data, detecting manipulation, and even in the formulation of

political campaigns In Algeria, voting is a constitutional right, as Article 56 of the amendment to the Algerian Constitution states: "Every citizen who fulfils the legal conditions has the right to vote and to be elected." Despite the existence of a legal and political structure aimed at ensuring the integrity of elections, the integration of AI technologies remains a complex topic due to technical challenges, infrastructure, and concerns related to impartiality and transparency. In Algeria, the Independent National Electoral Authority (ANIE) was established in 2019, and the new Organic Law on Elections (2021) coincided with the technological development that emerged to incorporate digitisation and artificial intelligence as a mechanism to improve the credibility and efficiency of the electoral process. While some argue that AI has become an inevitable necessity for the development of democracy, others believe that adopting it without strict ethical and legal controls may open the door to serious risks. Accordingly, this research aims to analyse the reality and prospects of the use of AI in Algerian elections, focusing on the difficulties of implementation and highlighting the importance of developing an ethical framework to guide this use within a legislative and institutional reform process:

How can Algeria employ artificial intelligence in the electoral process in a way that ensures the imperative of application and ethical governance?

To answer this problematic, we divided the topic into two parts:

- 1-Conceptual Framework: Digitization and Artificial Intelligence in Elections
- 2-Challenges of AI Application in Algerian Elections

We adopted a comparative approach by studying advanced models of artificial intelligence from several countries and their applicability to Algeria through the rule of law.

Literature Review

Artificial intelligence (AI) functions as an accelerating disruptive power which transforms democratic organizations across the globe through its automated systems that affect election procedures. The digital transformation of Algerian public institutions has accelerated while AI implementation in electoral systems creates opportunities but also generates essential governance challenges. AI applications in worldwide elections bring two sets of advantages which enhance operational efficiency and electoral transparency and voter participation but create new security threats that enable misinformation spread and political manipulation and compromise voter privacy and create unfair political power imbalances(Maine & Esiefarienrhe, 2024, p. 3215); (Jayant, 2024, p. 230) the Algerian situation needs urgent attention because the country stands at a crucial moment to develop democracy and deploy digital technology. (Asiryan, 2023, p. 20)

Research shows that AI-based tools for voter profiling and predictive analytics and online campaigning and electoral management systems will establish new election

administration procedures for developing democracies (Juneja, 2024, p. 67) The implementation of these technologies needs strong accountability systems which protect democracy and produce both accurate and fair outcomes (Deepak et al., 2023, p. 231). (Narayana, 2024, p. 1770). The African region encounters three major obstacles because of insufficient transparency and low digital literacy and weak data management systems and inadequate institutional capacity to address AI political risks (Osemuyi, 2023, p. 18) (Kiilu, 2025, p. 33). The government of Algeria needs to develop an ethical framework which will assess AI benefits and drawbacks before beginning its deployment. (Rautela & Singh, 2025, p. 454)

Public decision-making through algorithmic governance systems generates ethical problems which match those found in democratic systems across the world. Public administration agencies that use AI systems for electoral bodies face the risk of developing bias which decreases their accountability and public trust because they do not have sufficient monitoring systems (Pereira Filho & de Araújo Lima, 2024, p. 9) (Zahabiyyah & Septiana, 2024). (Saxena, 2024, p. 29). The implementation of big data and machine learning and automated decision systems in elections creates new obligations for institutions which handle voter registration and campaign oversight and election outcome management (Höchtel et al., 2016, p. 149). The development of ethical AI governance systems has become essential because they need to defend democracy while allowing technological advancement. (Giest, 2024, p. 392)

Research shows that deepfakes and automated propaganda and targeted disinformation spread by AI create election integrity threats which affect all countries worldwide. Research shows these tools produce public opinion distortions which help political narratives control voters and weaken democratic system stability (Régis et al., 2025, p. 4) (Rautela & Singh, 2025, p. 465) (Pulijala, 2024, p. 7). Multiple scholars and institutions support governance systems which combine transparent operations with human monitoring and rigorous auditing and trust-based frameworks for public sector AI deployment (Koenig, 2025, p. 630) (Andrews et al., 2022, p. 15). The principles for digital election safety in Algeria need to handle both legal and legitimate issues during its digital voting system transition. (Nikiforova et al., 2025, p. 6).

The literature demonstrates that Algerian election AI implementation through two methods which link digital advancement needs to ethical monitoring requirements. The paper begins with an introduction which follows by analyzing AI theoretical applications in electoral systems to evaluate their advantages and disadvantages for Algerian electoral processes and develop ethical standards for electoral integrity and explain AI deployment techniques with built-in democratic safeguards.

FIRST SECTION:

Conceptual Framework: Digitization and Artificial Intelligence in Elections

Digitization is one of the main pillars of the digital transformation process. It is the conversion of information and data from their paper or analogue forms into digital formats that can be stored and processed within computer systems. AI represents a more advanced stage, going beyond simply digitizing data and giving it added value by being able to analyses, learn, predict, and make decisions in a way that resembles the mental abilities of humans. (1) Since its establishment in 2019, the Independent National Electoral Authority (INEA) has been a step forward in institutionalizing electoral transparency. However, the use of AI within this body is still in its infancy. (2)

1- Applications of AI in Electoral Processes:

Digitalization in elections is the conversion of information and processes from a paper or analogue form to a digital form that can be processed by a computer. Scanning paper documents and saving them in PDF format focuses on facilitating access to information without necessarily the ability to make decisions or 'think'. Digital data is structured but "static" (not thinking and not analysing), paving the way for AI by making data available in digital form(TVTC, 2025) Artificial Intelligence (AI) is a branch of computer science that aims to develop systems capable of learning, analysing, predicting, and making decisions in a way that mimics human cognitive abilities beyond simply memorising or transforming information, to add the ability to understand and interact with data and smart assistants such as ChatGPT. AI algorithms can also be used to predict election results or analyse big data.

A-Digitalisation vs. AI:

Digitization: The first basic stage: Converting information into a digital format.
Artificial Intelligence: A later advanced stage in which digital data is exploited to generate intelligent decisions or solutions. Digitization = "data processing" and AI = "using data intelligently".

It is clear from the above that digitization forms the basis for building artificial intelligence, as it is not possible to talk about intelligent systems without structured digital data. However, this transition from merely transforming data to exploiting it through smart algorithms raises a number of ethical challenges, especially those related to transparency, protecting privacy, and ensuring fairness in the processing of data. Therefore, any project that seeks to employ digitization and artificial intelligence in the scientific, legal or administrative fields is in dire need of an ethical governance framework that balances technological innovation with social responsibility, ensuring the rational use of these tools without compromising basic human values. (Cannavale et al., 2025, p.120)

Several attempts have been made to measure voter attitudes in presidential or general elections in some countries by designing sentiment analysis algorithms to extract the opinions and attitudes of the electorate by analyzing the text posted by users on social networks. Several studies have been conducted to assess the role of social networks in measuring public opinion trends through the use of sentiment analysis algorithms. The results showed that social media data can be used to accurately predict election results. (Al-Dubaisi, 2025, p. 7).

One of the most well-known examples of predictive journalism is Nate Silver's analysis of data from Five Thirty-Eight, a polling and data analysis website, for The New York Times. Nate Silver used a combination of historical election results data, current voting patterns, and potential projections to estimate the outcome of future elections. Silver gained significant attention after its model accurately predicted the outcome of the 2014 U.S. Senate election. (Al-Dubaisi, 2025, p. 6).

B-Emerging Technologies Supporting Elections:

Voting in elections is perhaps the only area that has not benefited greatly from the technological revolution to this day. The restrictions are still the same that require voters to physically attend the polling site to cast their votes, which can often make things complicated in terms of finding time to travel or force majeure circumstances that cause voters not to reach the polling stations, events and conflicts, falsification of results.

BLOCKCHAIN technology can significantly eliminate many of the threats to the voting process in different elections by eliminating electoral violence both on individuals and the electoral process and providing a clear and accessible electronic voter register. In addition, voting can take place from local, decentralised and distributed independent polling places and via mobile platforms, giving voters the opportunity to cast their votes without going to the polling site (Ben Qasi, 2020, p. 780).

AI can also increase electoral participation by facilitating the voting process and attracting more voters to participate through mobile applications and facial recognition technologies and by providing interactive tools. To enhance transparency, technologies such as blockchain can be used to record votes securely and transparently, preventing tampering and fraud by monitoring elections and analysing data accurately (Kalahchi, 2025, p. 5).

Sierra Leoneans went to the polls on 7 March 2018, but this time there was something different: The country recorded a 70 per cent voter turnout using technology that is a first for electoral voting.

The modern technology, which is widely used in cryptocurrency and Bitcoin trading, was used in Sierra Leone to store votes in a "native ledger", enabling instant access to election results and updating them every second.

It is amazing to see the application of technology in Sierra Leone, a country with a population of 7.4 million. Ultimately, the goal is to reduce the cost of voting, by reducing paper ballots, as well as reducing corruption in the voting process. Unified digital identity is already a reality in some countries such as Estonia, Kazakhstan and India. The individual digital ID is used for each person voting and the citizen carries the ID on what looks like a bank card with an electronic chip, and the digital identifiers are managed by central government authorities. (Arab Post., 2018).

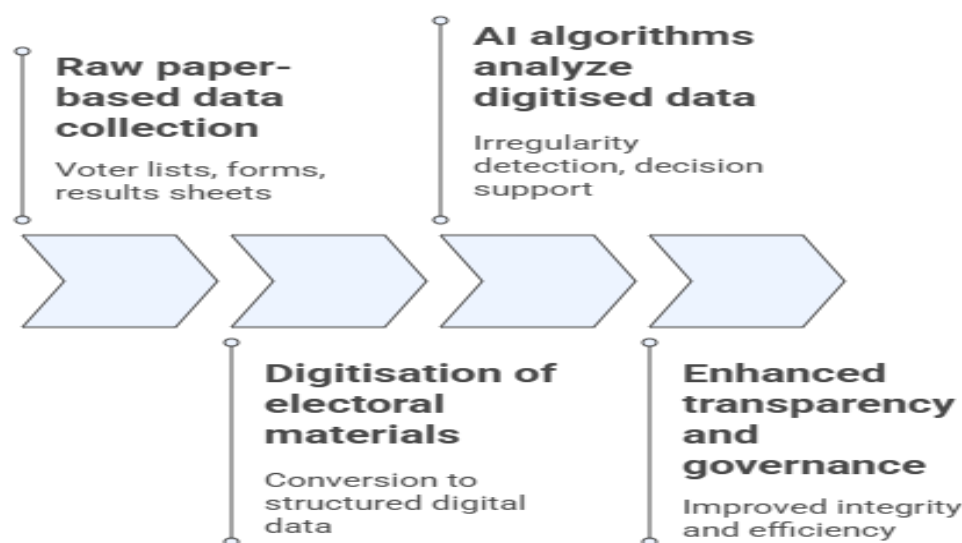


Figure 1 – The Relationship Between Digitization and Artificial Intelligence in Elections

The figure1 demonstrates how digitization leads to artificial intelligence implementation in electoral processes through a step-by-step process. The diagram starts with unprocessed paper-based information which includes voter lists and forms and results sheets. The digitization process converts disorganized paper documents into digital data which becomes accessible for storage and processing operations. The process requires mechanical operations because digital data by itself lacks the ability to produce analytical results or make decisions. The figure shows artificial intelligence using digitized data to perform three main functions which include irregularity detection and decision support and electoral trend prediction and transparency improvement. The system functions through a straight connection between digitization and AI which transforms digital data into useful governance solutions for election integrity and operational efficiency.

2- The Algerian Electoral Context and the Digital Shift:

Since 2019, Algeria has witnessed profound political and constitutional changes that have been linked to the call for the establishment of new mechanisms to ensure the

integrity of the electoral process and keep the executive administration from controlling its course. Most notably, the Independent National Electoral Authority (INEA) replaced the Ministry of Interior, which oversaw elections from independence until the establishment of this body. The first election organized by this body is the presidential election on 12 December 2019.

A-The Independent National Electoral Authority:

Article 200 of the 2020 constitutional amendment states: "The Independent National Electoral Authority is an independent institution." Article 202 also states: "The Independent National Electoral Authority is an independent institution." The Independent National Electoral Authority is in charge of preparing, organizing, conducting and supervising presidential, legislative and local elections and referendums. (Presidential Decree, 2022)

The Independent National Electoral Authority must exercise the registration and review of the electoral lists, the preparation of the electoral process, the voting and counting processes, and the resolution of electoral disputes in accordance with the legislation in force.

The Independent National Electoral Authority should exercise its functions from the date of summoning the electoral body until the announcement of the provisional results of the polls.

Article 10 of the Algerian Electoral Law states that the Independent Authority exercises its powers from the summoning of the electorate until the announcement of the provisional results: Maintaining the lists of Algerians at home and abroad, preparing voter cards, disseminating the culture of voting, protecting the personal data of voters and candidates (Ordinance No. 21-01, 2021) and this is very important

B- ANIE's Experience with Digitization:

In light of the digital revolution that the world is witnessing, digitisation has become a strategic choice to develop the electoral process and enhance its transparency and effectiveness, especially as the experiences of countries have shown that technology can be an important factor in reducing fraud and achieving credibility.

The (INEA) exercise its functions in a transparent, neutral and impartial manner. (Presidential Decree, 2022)

Since Professor "**Karim Khelfane**" took over as Acting President of the (INEA), he started the task of collecting, organising and digitising the IAEA's archives and allocating a special space for this, while harnessing the human, material and technical resources to make this process a success.

In this regard, he set up a committee composed of two members of the Authority's Council and its executives (Secretary General of the Authority, specialists in computer information), which prepared a plan of action and started the process of archiving and digitizing documents at the level of a wing dedicated to this purpose at

the headquarters of the Independent Authority Coordination in Algiers, which he visited today, Monday 28 April 2025, along with the members of the committee. To ensure the success of this process, the IGA enlisted the expertise of the Directorate General of the National Archives of the Presidency of the Republic, which responded to the invitation to complete a field study and provided us with recommendations and procedures to be followed for this purpose, given the importance of the IGA's archive as its electoral memory, and agreed to organize training sessions for the IGA staff dedicated to this task.

Table 1. Overview of ANIE's Digitization Efforts (2019–2025).

<i>Area</i>	<i>Actions Undertaken</i>	<i>Expected Impact</i>
Archiving	<i>Creation of digital archive unit; scanning historical files.</i>	<i>Preserves electoral memory; improves access.</i>
Data Management	<i>Structuring documents; centralized databases.</i>	<i>Enhances transparency & efficiency.</i>
Technical Cooperation	<i>Partnership with National Archives Directorate.</i>	<i>Improved standards & training.</i>
Human Capacity	<i>Training sessions for staff.</i>	<i>Better competence in digital workflows.</i>
Infrastructure	<i>Dedicated digitization wing; modern equipment.</i>	<i>Foundation for future AI use.</i>

Source: Author's summary based on INEA public communications (2025).

The (INEA) also extends its sincere thanks and gratitude to the efforts of the Director General of the National Archives at the Presidency of the Republic and his specialised staff for accompanying us in this mission, which mainly falls within the governance of document and archive management and in line with the digital transformation strategy initiated by the Algerian State (Independent National Electoral Authority, 2025).

In this regard, we believe that Ordinance No. 21-01 containing the organic law on the electoral system should be amended by adding a paragraph to Article 10 to enable the (INEA) to employ artificial intelligence in the Algerian elections.

SECOND SECTION:

Challenges of AI Application in Algerian Elections

From updating lists and organising logistics to political communication and disinformation monitoring, there are many opportunities and challenges for employing AI technologies in Algeria's electoral cycle. The national legal framework is analysed in light of international ethical governance standards (UNESCO AI Ethics Recommendation 2021, African Union Continental Strategy for Artificial Intelligence 2024, Council of Europe Convention on Artificial Intelligence 2024, (1) Given the Algerian reality and the technological development that Algeria is experiencing, the experience of AI in Algerian elections will undoubtedly contribute to increasing voter turnout. (2)

1- Emulating International Experiences in Ethical Governance:

UNESCO recommends that Member States should encourage public entities, private sector companies and civil society organisations to engage various stakeholders in their work on AI governance and to consider the creation of a new position for an independent AI ethics officer or a specific mechanism to oversee efforts to assess ethical consequences, review work and continue monitoring and to ensure that AI systems are guided by ethics and Member States, private sector companies and civil society organisations are encouraged to establish a network of independent AI ethics officers to ensure that AI systems are guided by ethics. (UNESCO, 2021)

Table 2. International Models of Ethical AI Governance

Model	Core Principle	Relevance to Elections
UNESCO AI Ethics (2021)	Human rights, transparency, accountability.	Provides global ethical baseline for electoral AI.
African Union AI Strategy (2024)	Inclusion, innovation, African context.	Supports continental alignment for Algeria.
EU AI Act (2024)	Risk-based regulation.	Offers a model for regulating high-risk AI like election tools.
Germany (2024)	Content labelling and digital campaign oversight.	Addresses deep fakes, misinformation & campaign manipulation.

Source: Adapted from UNESCO (2021), African Union (2024), EU (2024), KAS Germany (2024).

A-African Union Perspective on AI and Development

Artificial intelligence (AI) is not just a technological leap; it's a transformative force that is reshaping our world. With its far-reaching impact on economics, society and geopolitics, AI is driving revolutionary changes in healthcare, agriculture, finance and education.

For Africa, AI is a strategic asset that is pivotal to achieving the aspirations of Agenda 2063 and the Sustainable Development Goals (SDGs). It has the potential to stimulate new industries, drive innovation, and generate high-value employment opportunities, all the while preserving and promoting African culture and integration. (African Union, 2024)

B- European Union AI Act and Governance Practices:

The European Union countries ratified the European Law on Artificial Intelligence on 21 May 2024, the first ever European legal framework for artificial intelligence, which primarily addresses the risks of artificial intelligence and positions Europe to play a leading role at the global level. The European Commission prepared the AI Covenant in 2021, which was ratified by the European Parliament in 2023 and centred around two pillars: The first pillar serves as a portal to engage the AI Covenant network, i.e. the organisations that have ratified its provisions, to encourage the exchange of best practices and provide practical information on how to implement the Covenant. The second pillar encourages AI system providers to be prepared and take the necessary steps to comply with the requirements and obligations set out in the AI Law. (Letim, 2024, p. 47)

The German Konrad Adenauer Foundation published a report titled: "Threatened Digital Democracy: Artificial Intelligence and Elections in Germany" in December 2024, to discuss the current and future role of artificial intelligence in shaping the German political landscape with some practical examples, taking into account German societal developments that support the contributions of artificial intelligence, as well as the potential opportunities and threats it poses. The report used a quantitative approach to monitor the most important AI applications used in 2024 in the European Parliament elections and local elections in Brandenburg, Thuringia and Saxony, and the results are as follows:

1-European Parliament elections June 2024:

The election results demonstrated the ability of artificial intelligence to open up new and effective horizons to win votes. It is no longer limited to a mere presence on social media; the idea of allocating future investments in technical infrastructure and the use of effective and flexible communication methods must be included, and the most prominent parties that have begun to reap the benefits of this. (Mohyi, 2025)

Parliamentary elections in Brandenburg, Thuringia and Saxony 2024: The Alternative for Germany (AFD) and the Free Democratic Party (FDP) in Saxony

created a chatbot to answer voters about their party's electoral programmes. The Sarah Wagenknecht Alliance (BSW) also achieved digital impact by alternating between campaigning on social media and mass mobilisation through influencers on the TikTok platform, which appeals to younger audiences, overcoming a poor digital infrastructure. The report formulated several recommendations to provide practical measures based on the current legal framework to ensure the integrity of the principle of digital democracy and to reach an agreement to create a code of conduct aimed at imposing uniform and loophole-free rules on the importance of labelling AI-generated content and its application in the German elections of 2025. (Mohyi, 2025.)

From the above-mentioned international experiences, we conclude that Algeria has the logistical, technical and human resources that Algeria can utilise and apply from the Independent National Electoral Authority (INEA)

2-Towards an Algerian Model for the Application of Artificial Intelligence:

Public opinion is considered a basic guarantee and a vessel in which all guarantees of freedom are formed before they are transformed into constitutional texts and rules, meaning that protection is by the power of public opinion because it is the true protector of the constitution, and the multiparty system is one of the legal frameworks that can influence the direction of state policy in order to protect freedoms. (Wahab, 2011, p. 82)

Political parties contribute to the formation of citizens' political consciousness by joining the ranks of this or that party, or simply partisanship by supporting and voting for this or that party. Political consciousness is formed through the education used by some ideological parties, or through the guidance used by electoral parties. (Al-Debs, 2014, p. 128)

A-Algeria's Strategic Investments in Artificial Intelligence:

During the Ministerial Summit held in Barcelona, Spain in March 2023 in parallel with the Mobile World Congress, with the participation of 26 countries, Algeria once again confirmed its leading role in the field of Artificial Intelligence (AI) in Africa through strategic investments and key initiatives taken by the Algerian government to promote and pave the way for the adoption of AI. Among these achievements are:

The National Higher School of Artificial Intelligence (ENAI), created as part of the visionary vision of President of the Republic Abdelmadjid Tebboune four years ago, before AI became a central topic globally; the launch of **the largest data and computing** and developing new technologies; **the creation of 'Skills Centers'** and an investment fund to promote AI, which will support the promotion of skills and technological innovation in Algeria; and the establishment of the 'Skills Centers' and an investment fund to promote AI. (Ministry of Post and Telecommunications, 2025)

It is worth mentioning the outcome of the ministerial summit held on the sidelines of the African Startup Conference, which resulted in a joint declaration and roadmap for the adoption of AI in Africa. Algeria emphasised the importance of considering this roadmap as a reference for the work of the African Council for Artificial Intelligence, calling for its deepening and adoption at the continental level.

Algeria continues to chart the path towards an ambitious and inclusive digital transformation in Africa by putting innovation and talent creation at the centre of its work, as this vision reflects the challenges and opportunities posed by a future that is firmly oriented towards artificial intelligence (Ministry of Post and Telecommunications, 2025).

In a first-of-its-kind move on the Algerian political scene, the UK-based campaign directorate of presidential candidate Abdelmadjid Tebboune, led by Fateh Tekhroubt, has announced the adoption of artificial intelligence (AI) technologies to manage and organise the 2024 election campaign.

He explained that the move aims to revolutionise how we communicate with voters and ensure an effective and powerful impact during the electoral process, ‘The adoption of artificial intelligence represents a paradigm shift in campaign management methods, enabling more accurate and effective communication with voters,’ said a spokesperson for the UK Campaign Directorate. ‘This technology gives us the ability to better understand the needs and aspirations of voters, helping us to build an electoral programme that meets the hopes of the Algerian people. (Algeria Press Online. Video, 2024)

These initiatives are part of a comprehensive vision in which Abdelmadjid Tebboune seeks to enhance communication with voters, both inside and outside of Algeria, by utilising the latest technologies to ensure a positive and effective impact on the presidential election. By employing artificial intelligence and providing convenient polling centres, Tebboune hopes to make a real difference in the election process, boosting his chances of success in the 2024 elections and leaving a lasting mark on the political scene. (Algeria Press Online. Video, 2024). Thanks to this policy, he was able to win the election on 7 September 2024 with 7976291 votes (84.30 per cent).

The overall participation rate was 46.10 per cent, and the voting was in person, and the Algerian state did not resort to electronic digital voting.

B- Proposed AI Applications for the Algerian Electoral Process:

From this result, we see that the use of AI tools in the upcoming Algerian elections has become an urgent requirement and can be adopted as follows:

a) Artificial intelligence in the context of Algerian elections should include machine learning, natural language processing and computer vision systems that are used for: (a) management and cleansing of the electoral register; (b) logistics and management of centres and resources; (c) support for institutional communication and

voter service; (d) proactive detection of disinformation and manipulation (Deepfakes, bots, coordinated campaigns); and (e) semantic analysis of public debate.

b) Ethical governance: A set of principles and procedures to prevent risks and protect rights, including transparency, accountability, fairness and non-discrimination, minimal data collection, effective human oversight, and the ability to be independently audited

The Algerian electoral system encounters two opposing difficulties from artificial intelligence because it provides opportunities to boost election transparency and integrity but generates ethical concerns which require dedicated legal and operational guidelines. The implementation of AI in Algerian elections requires ethical governance principles which use worldwide examples to develop local standards for building public trust in electoral procedures.

The Algerian electoral system produces both beneficial and detrimental results after artificial intelligence systems start operating within its existing framework. The electoral system benefits from AI tools which enhance electoral integrity while improving operational efficiency and increasing transparency. The system uses automated list management and fraud detection and rapid results transmission to decrease human mistakes and solve existing operational problems. The implementation of AI systems creates multiple security threats because they can be used for political manipulation and data privacy violations and algorithmic bias and misuse of power. AI systems that function without established governance systems will create election distrust instead of building trust.

The assessment of AI implementation feasibility in Algeria depends on how well the country supports institutional development and technological advancement. The country has achieved significant digital transformation progress through its recent reforms and AI institution creation and increased digital infrastructure funding from the government. The country continues to experience problems because it lacks sufficient data protection systems and lacks specific AI regulations in electoral laws and needs improved technical skills for electoral organizations. AI technology implementation remains possible through controlled implementation which needs proper institutional development support.

The success of this process depends on public trust because it stands as a crucial factor. The implementation of advanced technologies for elections will either improve or worsen the existing doubts Algerian voters have about election transparency. The implementation of AI technology depends on three essential elements which include visible transparency and public AI process disclosure and independent oversight systems. The electoral system will gain more voter trust because voters see AI as a fairness tool instead of a control system.

The deployment of AI tools needs to match the political values which exist in Algerian culture. The implementation of technological solutions requires modifications to meet local administrative needs and legal requirements and cultural preferences of

the community. AI systems operate as democratic development tools which support the existing democratic system. The national value alignment of technological progress will help Algeria achieve AI-driven transformation through stable institutions and democratic elections.

Conclusion:

The implementation of artificial intelligence systems in Algerian elections brings technological progress which enables better electoral procedures through enhanced operational efficiency and improved transparency and integrity. The country achieved digital progress through institutional changes which began in 2019 when the Independent National Electoral Authority (ANIE) started operations and national funding became available for AI infrastructure development. The 2024 presidential campaign shows how AI tools have become vital for political parties to reach their voting supporters. The national laws do not fully adapt to AI technology because they fail to address significant ethical problems related to privacy risks and algorithmic bias and cyber security threats and transparency issues.

The positive contribution of AI to democratic consolidation requires Algeria to establish a governance system which combines ethical principles with legal frameworks. The implementation of AI in electoral systems needs to follow a structured process while maintaining complete transparency and public oversight to establish digital voting technology trust among citizens. The success of AI in Algerian elections will depend on creating balance between technological progress and the existing political system and social values and administrative capabilities.

Recommendations:

- The Organic Law 21-01 needs modification through Article 10 to grant ANIE official authorization for AI tool implementation.
- The law needs to establish particular rules which control algorithm operation while providing transparency and accountability and making system functions explainable.
- The law needs to create specific regulations which control digital political advertising and require political content disclosure and micro-targeting systems to defend voter integrity
- The government should establish national ethical standards for AI election applications which follow UNESCO (2021) and AU (2024) and EU (2024) guidelines.
- The government should establish an independent AI oversight body which will have an ethics sub-committee at ANIE to track system development and implementation and perform system audits.
- All AI systems operating in electoral processes must generate complete transparency reports which should be available to the public.

- The program needs to provide training to ANIE personnel and judges and administrative staff about AI fundamentals and data assessment and ethical AI system management.
- The program needs to enable academic institutions and research facilities and public organizations to form alliances which develop specific AI solutions that meet electoral needs.
- The program needs to work with the National Archives for developing common digital document management protocols.

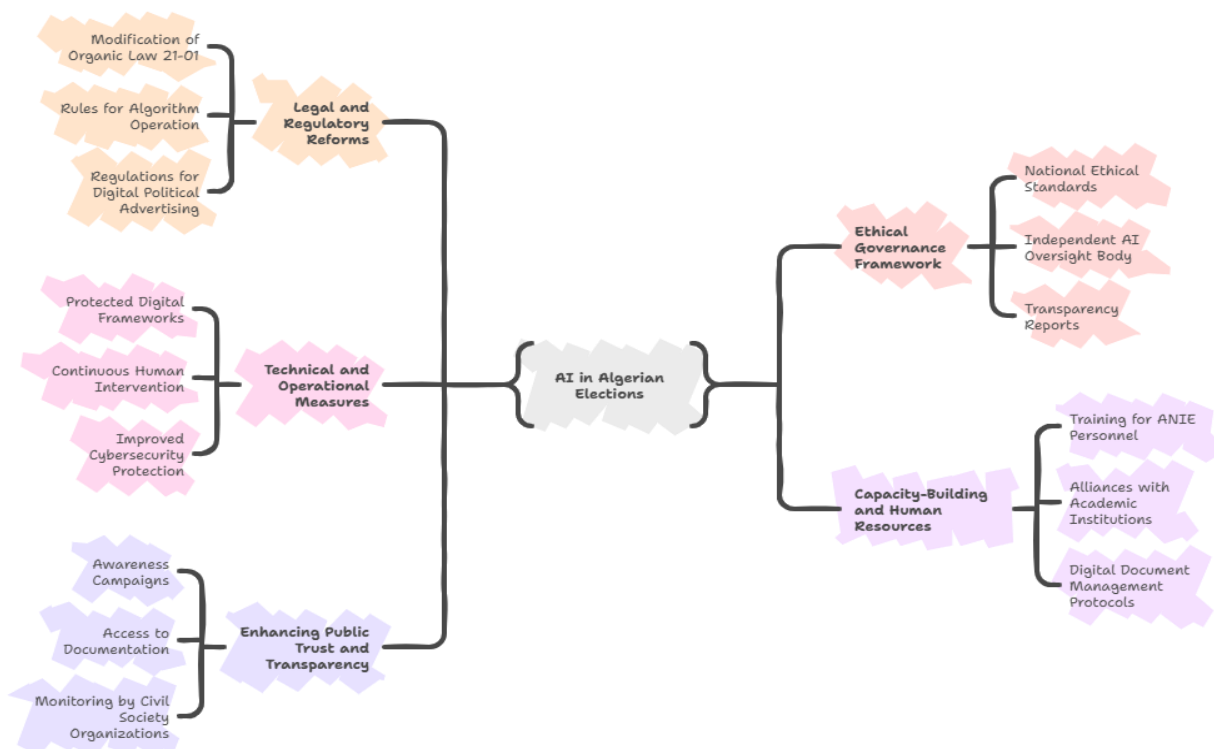


Figure 2 – AI in Algerian Elections: Recommendations for Ethical and Legal Governance

The model for ethical AI governance in **Table 3** establishes a complete framework which fulfills the particular requirements of Algerian electoral procedures. The model consists of four essential elements which include national ethical standards and institutional changes and legal modifications and operational and technical protection systems.

Table 3. Proposed Algerian Model for Ethical AI Governance

Pillar	Recommendation	Implementation Body
Legal	Amend Organic Law 21-01 to include AI regulation.	Parliament / Ministry of Justice.
Institutional	Create AI Ethics Sub-Committee inside ANIE.	ANIE.
Technical	Develop national AI systems for elections.	ANIE + universities.
Oversight	Establish independent AI audit authority.	Constitutional institutions.
Transparency	Mandatory labelling of AI-generated political content.	ANIE + political parties.

Source: Author's proposal.

The **Table3.** recommends that Algeria should create its own ethical standards which follow international guidelines while establishing two new bodies for digital ethics governance and AI oversight and modifying electoral laws to control algorithmic disclosure and artificial intelligence political content production. The model includes operational steps which combine human monitoring with protected data management and independent evaluation processes and risk evaluation systems and state-university partnerships for developing domestic AI systems. The table provides an organized structure which enables Algeria to use AI in elections through transparent and fair processes that protect public confidence.

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