METU Studies in Development, 51 (December), 2024, 191-209

Artificial intelligence and migration governance: Navigating cooperation and complexity in European Union-Türkiye relations*

Ayselin Yıldız
Department of International Relations, İstinye University, İstanbul
Migration Research Center, Koç University, İstanbul
e-mail: ayselin94@gmail.com
ORCID: 0000-0001-8845-2367

Dilaver Arıkan Açar
Department of International Relations, Yaşar University, İzmir
e-mail: arikan.acar@yasar.edu.tr
ORCID: 0000-0001-8582-329X

Abstract

Artificial intelligence (AI) and emerging technologies are becoming significant in migration governance by introducing innovative tools for governing and estimating mobility, enabling data-driven analysis, and improving policy efficiency. This article investigates how specific dynamic developments in AI technologies shape the European Union (EU)-Türkiye relations within the realm of migration governance. It explores the EU's strategies for AI integration, Türkiye's evolving practices, and the opportunities for collaboration, emphasizing shared interests while addressing the geopolitical complexities involved in these processes. Drawing on selected case studies and policy frameworks, the article argues that the adoption of new technologies in migration governance necessitates the EU-Türkiye cooperation, transcending the conventional framework of the EU accession. The discussion highlights potential areas of collaboration, the anticipated benefits, and the challenges, including the security concerns and the ethical dilemmas

* Submitted/Geliş: 11.12.2024, Accepted/Kabul: 27.12.2024

surrounding human rights and privacy. By emphasizing shared interests, this study highlights the critical role of joint efforts in navigating the complexities of AI-driven migration governance while fostering more effective and equitable policy outcomes.

Key words: EU-Türkiye relations, migration governance, artificial intelligence, AI, AI-driven technologies, border surveillance, securitization,

1. Introduction

Despite years marked by stagnation, slow progress, and oscillations between advances and setbacks in EU-Türkiye relations, migration governance remains a pivotal and strategic domain of cooperation. Accession negotiations have been stalled since 2018 however beyond the scope of membership quest, the EU addresses Türkiye as a key strategic partner on issues such as climate, migration, security, counterterrorism, and economy (European Commission, 2024a). Notably, Chapter 24, "Justice, Freedom and Security," of accession negotiations is featured among few areas under the "fundamentals of the accession process" in the European Union's 2024 Türkiye Report (European Commission, 2024b: 35). Whether framed as "enhanced cooperation" (European Council, 2021), "transactional operational cooperation" (Dimitriadi et al., 2018) or "differentiated integration" (Müftüler-Baç, 2017; Turhan and Yıldız, 2022), migration governance remains a vital and prominent area of shared interest in the EU-Türkiye relations. Policy convergence and strategic collaboration in this domain aim to encompass all facets of migration governance, including combatting irregular migration, reinforcing the resilience of refugees and host communities in Türkiye, concentrating joint efforts on durable solutions, fostering dialogue and cooperation on regional challenges, and leveraging positive momentum to strengthen overall the EU-Türkiye relations.

Looking closer to the migration domain, the EU-Türkiye migration cooperation exemplifies the EU's broader strategy of externalizing migration governance (Yıldız, 2016; Üstübici, 2019), a framework primarily centered on containing irregular migration at the EU's periphery (Dimitriadi et al., 2018) and ensuring Europe's internal security (European Commission, 2020a). The integration of artificial intelligence (AI) into migration governance frameworks introduces an additional, yet complementary, dynamic to this relationship. AI is increasingly employed in both the EU and Türkiye, particularly in critical areas such as border surveillance and identity verification. Current practices reflect a shared reliance on AI-driven tools to reinforce migration control mechanisms, further aligning the approaches of both actors in migration governance while concurrently addressing overarching security concerns.

This article explores whether the integration of AI technologies into Türkiye's migration policy offers renewed impetus for the EU-Türkiye migration cooperation or merely reinforces Türkiye's alignment with the EU's migration policies—

primarily through the securitization of migration. The study also explores the potential for revisiting and revitalizing the EU-Türkiye cooperation by fostering more evidence-based approaches to migration governance. Methodologically, the article draws on an analysis of current trends in technological advancements, legal and political frameworks, and technology-oriented academic literature to examine the deployment of AI in migration governance. By focusing on practices in both the EU and Türkiye, the study sheds light on the convergence of policies, the role of technology in shaping migration governance priorities, and the opportunities for reconfiguring cooperation considering emerging AI-driven tools.

The article unfolds in four sections exploring the use of digital technologies across several dimensions of both the EU and Türkiye's migration, asylum and border policies. The first section provides a concise overview of the role of AI and emerging technologies in migration governance, offering background on AI systems and highlighting key areas where these technologies are commonly applied. The second section examines current trends in the European Union's approaches and practices concerning the use and deployment of AI within the migration domain. The third section shifts focus to Türkiye, analyzing how AI technologies are integrated into migration governance and assessing, through a comparative and critical lens, whether Türkiye's practices align with the EU's security-driven priorities, thereby contributing to policy convergence. The final section concludes with a discussion on the broader implications of these developments for EU-Türkiye relations, particularly considering the stalled accession process.

2. The role of AI and new technologies in migration governance

AI technologies have gained remarkable momentum in recent years, becoming an integral part of people's daily lives by performing tasks traditionally associated with human intelligence. Among the numerous definitions of AI, it is broadly characterized as a technology that enables machines to replicate various human skills or as the simulation of human intelligence by computers (Sheikh et al., 2023:15). It can be addressed as learning from data through algorithms. However, it is crucial to avoid reducing AI to a narrow, task-based framework that oversimplifies the complexity of human intelligence by equating it solely with software, algorithms or the latest technological advancements. Building upon significant milestones in the evolution of machine learning and the subsequent advancements in deep learning, AI today transcends the scope of self-learning algorithms designed to recognize patterns in data or solve specific problems. In this regard, while the definition of AI is expected to evolve over time, the High-Level Expert Group on Artificial Intelligence of the European Commission offers a comprehensive perspective, defining AI as "systems that display intelligent

behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals" (High-Level Expert Group on Artificial Intelligence, 2018:1).

Contrary to the widespread perception that AI is a novel concept, its origins trace back to the 1950s when Alan Turing (1950), known as the father of modern computer science, asked whether the machines could think. Pamela McCorduck, a pioneering figure in the AI industry, aptly highlights that foundational research conducted in the early and mid-1980s laid the groundwork for future AI applications, however, at the time, this research did not immediately translate into obvious commercial use (Gutierrez, 2020). Thus, she uses the term "AI effect" wherein much of AI technology remained largely unnoticed or not explicitly recognized as AI, despite its extensive integration into software applications years before.

The same applies to migration governance; it is a pivotal but not a new domain for the utilization of AI technologies and its foundations can be traced back to the 1990s. The early adoption of AI technologies in migration governance was primarily driven by substantial and sustained increases in international air travel, the advent of online visa application systems, and the growing capacity to collect and analyze international border-crossing data (McAuliffe, 2023). The pioneering countries of early adopters, equipped with advanced data infrastructures and the necessary financial and technical resources, today are more able to capitalize on their existing administrative data systems for development and implementation of more sophisticated, AI-supported migration management systems (McAuliffe, 2023).

In recent years, the prominence of AI-driven systems in the migration domain has been increasingly reflected in the growing attention within academic studies, international reports, and policy frameworks on the use of AI in this field. The "World Migration Report" of International Organization for Migration (IOM) devoted an entire chapter to "Artificial Intelligence, Migration, and Mobility: Implications for Policy and Practice" highlighting the transformative role of AI in shaping migration dynamics and its far-reaching implications for governance and policy-making (IOM, 2021). Similarly, UNHCR's Innovation Service highlights the ways AI can enhance refugee data collection and humanitarian responses, while also emphasizing ethical concerns, such as bias, discrimination, and privacy breaches (Baker et. al, 2024). The European Commission's report, "Opportunities and Challenges for the Use of Artificial Intelligence in Border Control, Migration and Security" (European Commission, 2020b), further explores the opportunities and risks of AI integration in migration governance, with a particular focus on border control, travel authorization and asylum processing.

Today, the early adopters utilize AI primarily in enhancing governments' capacities to monitor migration flows, strengthening border security (Molnar, 2020),

processing visa applications (Chui et al., 2018), issuing/extending residence or work permits, streamlining asylum processing (Hildebrandt, 2022), supporting refugee status determination (Kinchin and Mougouei, 2022), identification of fraudulent claims (Özkul, 2023) , and natural language processing for speech recognition and analysis (Nilsson, 2014). Additionally, AI is employed to analyze integration and social cohesion metrics and assess policy effectiveness These innovations are reinforced by advancements in automation and biometric systems, which have solidified AI's indispensable role in migration governance (Molnar, 2020). Some of the prominent examples include Canada's use of algorithmic decision-making for immigration and asylum determinations (Molnar and Gill, 2018), Norway's processing of residency and citizenship applications (Özkul, 2023), Germany's pilot initiatives employing facial and dialect recognition to assist asylum case evaluations (Beduschi, 2021), and Switzerland's experimental algorithms aimed at improving refugee integration outcomes (Bansak et al., 2018).

Among the various applications of AI-driven technologies, border surveillance emerges as a particularly dominant and rapidly expanding area within migration governance. Advanced technologies are increasingly employed to fortify security and control entry at the EU's external borders, reflecting a securitized approach to migration management (Lang, 2024). Over the years, the increasing use of AI in border surveillance governance has sparked significant debates surrounding militarization and securitization of border management (Ceyhan and Tsoukala, 2002). Some of the selected practices of high-tech border control mechanisms include deployment of border patrol drones, thermal cameras, advanced sensors, and high-resolution cameras, which collectively enhance monitoring capabilities.

Additionally, biometric technologies are widely utilized for identity verification and border management (Abomhara et al., 2021) particularly in selective visa-granting systems and the profiling of immigrants. As Molnar (2024:2) underlines, "The color of your skin, the accent in your voice, and even your body become a passport read by an increasingly automated border regime that excludes some while welcoming others".

Another notable area is the use of predictive analytics to forecast migratory flows. By processing and analyzing vast datasets at unprecedented speeds, AI enables authorities to detect patterns, assess risks, and anticipate migration trends, exceeding human analytical capabilities (Spyratos et al., 2018). Real-time data transmission and integration with AI algorithms could further amplify these systems, allowing for threat detection and evidence-based decision-making.

While these advancements enhance operational efficiency, they also raise critical concerns regarding transparency, accountability, and protection of fundamental human rights. The intersection of AI and migration governance underscores the tension between technological innovation and ethical, legal, and

societal implications of its application. It is argued that governments often utilize migrants and asylum seekers as subjects for testing experimental technologies and further entrenching their authority and control in governing migration (Sadık and Kaya, 2020: 148). By default, some AI systems perceive migrants as inherent risks or threats, reflecting deeply rooted biases in their algorithm design and implementation (Leese et al., 2021). In this context, human rights advocates and civil society organizations have raised serious concerns, emphasizing that such technologies risk undermining fundamental rights, including the right to asylum, the principle of *non-refoulement*, and the rights to privacy and liberty (EDRI, 2024; Nalbandian, 2022; Euromed Rights, 2023; Statewatch, 2022).

On the other hand, from a more constructive and forward-looking perspective, evolution and responsible integration of AI technologies hold potential for producing greater standardization in improving service delivery (Kinchin and Mougouei, 2022), enhancing efficiency, accuracy, and innovation in migration governance (Beduschi, 2021). When embedded within comprehensive, rights-based frameworks, AI can serve as a powerful tool for facilitating evidence-based decision-making in key areas such as asylum status determination, detecting human trafficking victims, service delivery, and the prevention of human rights violations. AI might foster the efficiency of migration governance by promoting data-driven, transparent, and equitable practices (Beduschi, 2021). It also streamlines administrative processes and reduces bureaucratic workloads. For example, the Hong Kong Immigration Department implemented its AI-driven *e-Brain* system to streamline application processing and develop procedural knowledge through machine learning which has minimized the need for case officer involvement, resulting in faster and more efficient application processing (McAuliffe, 2023).

3. The EU's approach and practices on integrating AI in migration governance

As migration remains a central political and societal issue across the EU, its Member States have increasingly embraced digital technologies in the migration and asylum domains in recent years (European Commission, 2022). A growing trend in leveraging digital tools—such as online case management systems, biometric data collection, and machine learning algorithms—has significantly shaped European migration and asylum systems (Salgado and Beirens, 2023).

AI-supported technologies are now being deployed in critical areas, including European border surveillance, automated asylum processing, biometric data collection, facial and voice recognition, and integration service delivery. At the national level, the EU Member States have tailored AI-based tools to fit into their specific migration management needs. For instance, Germany's Federal Office for

Migration and Refugees (BAMF) employs AI-powered speech recognition software to analyze asylum seekers' dialects, thereby verifying their claimed countries of origin (Bellanova and Duez, 2020). This system, trained on extensive linguistic datasets, offers efficiency and objectivity but has faced criticism regarding its accuracy, particularly in cases involving rare dialects or multilingual speakers. Similarly, France and the Netherlands have invested in AI-enhanced biometric systems to expedite and improve the precision of identity verification during asylum registration processes. Portugal introduced an online platform designed to streamline the residence permit application process, while Ireland has similarly digitized significant aspects of its migration system, including identity management and decision-making processes (OECD, 2024: 9). In response to the arrival of displaced persons from Ukraine, Lithuania implemented its MIGRIS platform to issue digital temporary residence permits, effectively eliminating the need for in-person visits and physical ID cards. Poland has also embraced digital identity documents, optimizing processes to enhance both security and user convenience.

At the institutional level, the EU-LISA agency—responsible for managing the EU's large-scale IT systems—and European Border Surveillance System (EUROSUR) play critical roles in integrating AI into migration governance. Systems like the Schengen Information System (SIS) and the Visa Information System (VIS) have been modernized with AI tools, enhancing data processing capabilities and interoperability across member states. Eurodac (European Asylum Dactyloscopy Database), the EU's digitalized fingerprint database of asylum seekers and irregular migrants, incorporates AI-driven algorithms for more accurate biometric matching. These advancements facilitate information-sharing between national authorities, enabling improved coordination in managing visa applications, identifying irregular migrants, and processing asylum claims. The use of AI allows these systems to perform tasks, such as biometric matching, with unprecedented speed, strengthening the decision-making processes of migration authorities.

In the legislative context, the EU's New Pact on Migration and Asylum adopted in 2024, introduces an expanded framework for the digital surveillance of migrants. This includes extensive data collection and automated information exchange, particularly through proposed revisions to the Eurodac Regulation (Official Journal of the EU, 2024a). Newly introduced screening and border procedures—mandated under the Screening Regulation (Official Journal of the EU, 2024b)—require security checks and risk assessments for individuals entering the EU irregularly. The Asylum Procedure Regulation also enables intrusive technological practices, such as the extraction and analysis of mobile phone data (Official Journal of the EU, 2024c). Furthermore, the revised Schengen Information System incorporates facial recognition and biometric data to enhance the efficiency of return operations for irregular migrants (Official Journal of the EU, 2024d).

The EU AI Act categorizes the AI systems that are used in migration governance as "high-risk," reflecting the need for rigorous oversight and accountability (Official Journal of the EU, 2024e). As the cornerstone of the EU's digital strategy, the AI Act reinforces the Union's commitment to fostering trustworthy AI systems. At the same time, the General Data Protection Regulation (GDPR) remains central in regulating the collection, processing, and storage of personal data in AI-driven systems. However, tensions persist between data protection requirements and the operational demands of migration governance, particularly in areas such as biometric registration and automated decision-making.

A closer examination of these legislative and operational developments reveals that the practical deployment of AI in the EU migration governance spans multiple domains, with border management emerging as a focal point. Surveillance technologies, facilitated by AI, are now integral to the EU's migration control strategy, enabling real-time monitoring, risk assessment, and identity verification at external borders (Bellanova and Duez, 2020). This evolution occurs within a broader framework that prioritizes the securitization of migration. The EU's *"A Strategic Compass for Security and Defence"* (Council of the EU, 2022:15) identifies irregular migration as one of the most significant challenges facing both shores of the Mediterranean. This strategic focus culminates in the EU's adoption of AI technologies within migration governance, which shaped primarily by security imperatives. A key player in this framework is the European Border and Coast Guard Agency, FRONTEX, exemplifies the integration of AI into border control operations. FRONTEX coordinates joint surveillance missions, border control operations, and return procedures, and deployment of advanced military-grade technologies. AI-powered predictive analytics enable the agency to forecast migration flows and identify irregular patterns. Drones equipped with AI-enhanced software are used to monitor vast stretches of the Mediterranean, delivering real-time surveillance data to detect unauthorized crossings. While these tools enhance situational awareness and operational efficiency, concerns remain about their compliance with international human rights laws (Tazzioli, 2023).

The EU-funded *iBorderCtrl* project, another notable example, illustrates the interplay between technological innovation and controversy. Implemented under the Horizon 2020 research framework, the initiative introduced AI-powered virtual lie detection systems at border crossings. During automated interviews, AI algorithms analyzed travelers' micro-expressions to determine the veracity of their statements. Despite its promise to streamline border procedures, *iBorderCtrl* faced substantial criticism over its scientific reliability, algorithmic biases, and the risk of discriminatory outcomes (Beduschi, 2021).

The European Travel Information and Authorization System (ETIAS) harnesses new technologies and AI to enhance security and streamline pre-travel

screening as an extra mandatory travel authorization layer for the Schengen States. ETIAS, set to become operational as part of the EU's broader smart border strategy, uses advanced data analytics and AI algorithms to assess risks associated with visa-exempt travelers entering the Schengen Area (European Union, 2024). By automating the analysis of traveler information, including biometric and biographical data, ETIAS enables real-time risk assessment, thereby improving detection of potential security threats, irregular migration patterns, and public health risks. The integration of AI in ETIAS highlights the EU's commitment to leveraging digital innovation for more efficient and data-driven migration governance while prioritizing security concerns with the facilitation of legitimate mobility. However, it also raises critical questions regarding data privacy, algorithmic accountability, and ethical implications of AI-driven decision-making in migration control.

The dual nature of AI deployment is thus evident: while it enhances evidence-based migration governance and operational efficiency, it simultaneously raises critical ethical and legal concerns. Two reports, namely "Europe's Techno-Borders" (Jones et al., 2023) and "Artificial Intelligence: The New Frontier of the EU's Border Externalisation Strategy" (Napolitano, 2023), underscore the human and financial costs of AI-driven migration policies. Both reports argue that while AI technologies aim to strengthen control and security, they often perpetuate discriminatory practices and erode human rights.

Another debate concerns the inherent limitations of AI systems. Critics point to the risk of amplifying existing biases when algorithms are trained on incomplete. The opacity of AI decision-making—often referred to as the *"black-box problem"*—poses further challenges to accountability and the ability of individuals to contest adverse outcomes. The "black box problem" refers to the fact of how AI systems learn and make decisions. In essence, AI involves a machine learning process where the system is trained using accurate examples of what we want it to recognize. However, the system also develops a "neural network" that enables it to categorize and interpret things it has not encountered before. The mechanisms behind how AI arrives at certain unexpected or unwanted conclusions remain unclear, giving rise to the black box dilemma (Rawashdeh, 2023). This issue of robustness has significant ethical implications, as these learning systems are increasingly being used to make judgments about humans, often with profound consequences for fairness, accountability, and transparency.

In summary, while AI offers innovative tools to strengthen migration governance in the EU, its deployment raises significant ethical, operational, and legal challenges. The evolving regulatory framework, led by the AI Act and the GDPR, attempts to balance the dual priorities of security and human rights. However, the broader debate persists over the potential erosion of fundamental

rights due to the design, implementation, and expansion of AI technologies within the EU's migration governance framework.

4. Convergence of security interests in data-driven migration cooperation between EU and Türkiye

Despite being a candidate country, the accession negotiations between the EU and Türkiye have remained at a standstill for nearly two decades primarily due to the Cyprus issue and backsliding in key reform areas. Despite the stalled accession process, migration cooperation continues to function as a strategic key area of collaboration. Türkiye has been hosting approximately 2.9 million Syrian refugees—amid ongoing voluntary return processes since the fall of the Assad regime in December 2024—as well as around 200,000 registered refugees and asylum seekers, primarily from Afghanistan, Iraq, and Iran (PMM, 2024; UNHCR, 2024).

Combatting irregular migration and reinforcing resilience of refugees and host communities emerge as two primary areas of strategic cooperation between the EU and Türkiye. For the EU, irregular migration represents a security issue—a perceived "threat" that must be addressed ideally before migrants reach the EU borders, in countries of origin or transit (Dimitriadi et al., 2018). The Mediterranean region remains a critical area for mixed migratory flows in the forthcoming decades. For Türkiye, in its 2021-2025 Strategy Document on Irregular Migration, key priorities are identified as including strengthening cooperation mechanisms to address migration at its source, enhancing border security, supporting return mechanisms in line with human rights standards, and developing evidence-based policies for managing irregular migration (PMM, 2024).

Situated at a critical crossroads in global migration governance, Türkiye presents a distinctly compelling case for the integration of AI and data-driven migration management, particularly in areas of border surveillance, identity verification, and potential refugee status determination (RSD). Several initiatives highlight Türkiye's technological advancements in migration governance, including advanced border security technologies, ongoing biometric registration systems and evolving digital platforms supporting service provision for foreigners. These areas of technological advancement are also priorities for the EU, offering a shared basis for further collaboration.

One of the primary domains where AI technologies are increasingly utilized is border surveillance. Türkiye continues to make substantial investments in modernizing its border security infrastructure, particularly along its southern and southeastern land borders. Advanced AI-powered surveillance technologies, including drones, thermal imaging cameras, and automated monitoring systems, are

extensively deployed along the eastern and southern borders to detect unauthorized crossings and irregular movements (Republic of Türkiye Ministry of Interior, 2024). Following the construction of a security wall, panel/barbed wire fences, patrol roads, lighting systems, and installation of thermal cameras along the Syrian border, similar technologies, including modern electro-optical communication and surveillance masts, have been placed along the Iranian and western borders (European Commission, 2024b:42). The EU provides significant financial and technical support to Türkiye in modernizing its border surveillance infrastructure, although such actions further contribute to the securitization of migration, rendering policy convergence with the EU somewhat ambivalent.

Within the EU accession perspective, technological advancements in border management are closely tied to Turkiye's commitments to the EU on developing and implementing Integrated Border Management (IBM). IBM encompasses two primary aspects: enhancing coordination between border authorities and improving data sharing mechanisms. However, Turkiye's convergence with the EU in the field of IBM remains limited due to the anticipated repercussions and Turkiye's justified concerns over the potential domestic adaptation costs of compliance (Turhan and Yıldız, 2022). Despite this, the increasing deployment of technological advancements in border controls continues to evolve within this contested area of IBM. In this context, although Turkiye has yet to update and implement its National Action Plan on IBM, initially adopted in 2006, it has established the National Coordination and Joint Risk Analysis Centre (NACORAC). NACORAC serves as a risk assessment center tasked with collecting border management-related data from all relevant national authorities, producing risk analyses, similar to FRONTEX. As the focal institution where AI technologies are most likely to be utilized, NACORAC remains only partially operational due to the need for further legislative actions and persistent challenges in data sharing (European Commission, 2024b).

Registration of biometric data constitutes another prominent area where Türkiye has progressed. In 2021, Türkiye integrated the National Biometric Fingerprint Database with the Migration Registration System. This integration facilitated the transfer of data pertaining to 5.5 million foreigners, the majority of whom are Syrian refugees, into the system. The system is operated by the Presidency of Migration Management.

Another noteworthy example is the Foreigner Communication Center (*Yabancılar İletişim Merkezi,* YIMER), which exemplifies Türkiye’s integration of AI and digital tools to streamline migration governance. YIMER operates as a centralized call center providing 24/7 multilingual assistance to migrants and asylum seekers who dial 157 by phone. The platform offers information on residency procedures, asylum applications, and legal rights while enabling rapid

intervention in emergencies such as human trafficking or exploitation cases. AI tools within YIMER enhance efficiency through automated systems capable of categorizing inquiries, directing calls to relevant personnel, and analyzing data patterns to improve decision-making processes. AI-powered chatbots and natural language processing technologies help streamline communication, enabling migrants to access essential information quickly and reducing administrative burdens on migration authorities.

The potential of AI technologies in processing asylum applications is another critical potential area of development. Türkiye's asylum system faces immense pressure, necessitating improvements in efficiency and fairness, particularly concerning credibility of assessments. Furthermore, the processes of nationality identification and status determination represent a highly challenging and dynamic domain. This complexity is marked by an overwhelming volume of information, frequent legislative changes that are not only challenging to interpret but also difficult to monitor consistently, thereby imposing a substantial additional burden on migration officials. Additionally, asylum processes entail the challenging tasks of gathering evidence and supporting documents, where the verification of such materials is both highly complex and necessitates specialized expertise that often surpasses the skill set of migration officials. Last but not least, language barriers pose a significant challenge for migration experts, hindering their ability to conduct thorough and effective interviews that accurately document the details of an asylum seeker's migration journey. Theoretically, AI can enhance decision-making processes by ensuring greater consistency, reducing delays, and examining large volumes of information to corroborate claims.

However, the inherent complexity of refugee status determination (RSD) processes—centered around the "well-founded fear of persecution," which involves both subjective fear and objective risk—raises significant concerns. RSD is not a purely technical process but takes place within a humanitarian context. In Türkiye, credibility assessments are further complicated by the diverse experiences of refugees, shaped by trauma, memory loss, and cultural particularities. While AI may streamline processes and mitigate overt biases, there remains a risk of reproducing human assumptions embedded in algorithmic training data. To address this, the learning process must incorporate a nuanced and sensitive analysis of diverse and accurate decision-making examples. This includes not only RSD decision but also deportation decisions and the rulings of the European Court of Human Rights, which provide critical insights into the accurate practices and the protection of fundamental rights.

Otherwise, the growing reliance on automated systems for corroborating facts or predicting risks could not only result in biased decisions, jeopardizing the

safety and security of refugees and potentially leading to unlawful deportations, but also inadvertently shift the burden of proof disproportionately onto asylum seekers.

Türkiye's evolving data protection framework and international legal commitments present further considerations for ethical AI integration in migration governance. Safeguarding sensitive personal data is critical to ensuring that AI tools do not infringe on asylum seekers' rights. Türkiye's 2021 Artificial Intelligence Strategy, followed by its 2024-2025 action plan, demonstrates a willingness to engage with AI technologies (Presidency of Turkish Republic Digital Transformation Office, 2024). However, any integration of AI into Türkiye's RSD system must be approached cautiously to avoid undermining refugees' access to protection. AI-driven efficiencies and standardization must be balanced with safeguards against bias and a commitment to transparency in decision-making processes. By aligning technological advancements with humanitarian and legal standards, Türkiye could set a precedent for ethical AI integration in refugee governance, offering a model for other countries facing similar challenges.

Another emerging area for AI integration is alternatives to detention (ATD), for example the electronic monitoring systems. While ATDs such as return counseling and family-based returns have been implemented, alternatives requiring advanced electronic infrastructure—such as voice recognition software and electronic bracelets—remain underdeveloped so far. Addressing these gaps represents a significant opportunity for technological intervention.

Despite the potential benefits of AI in migration governance, Türkiye faces infrastructural and technical challenges, including insufficient information and communication technologies (ICT) capabilities, limited access to skilled staff, and gaps in critical infrastructure. Interoperability between EU and Turkish AI systems further complicates efforts toward cooperation. Moreover, resource disparities in funding, expertise, and infrastructure between early AI adopters in the EU and Türkiye continue to hinder progress. Such challenges are not unique to Türkiye and reflect broader disparities in global digital capabilities. Ethical concerns surrounding data privacy, surveillance, and compliance with data protection laws—including alignment with the EU's GDPR—remain significant obstacles. Data sharing and analysis remain challenging areas requiring further progress and alignment between the EU and Türkiye (European Commission, 2024b). However, it is important to recognize that data sharing is inherently contested and politically sensitive, particularly concerning asylum and migration data. Cooperation in this domain is difficult to sustain across national systems due to concerns over privacy, ethics, and liability. Given these complexities, Türkiye is unlikely to take further steps toward deeper data-sharing collaboration with the EU without addressing key issues of reciprocity and conditionalities, especially within the broader context of Türkiye's EU accession process.

These shared challenges and mutual interests necessitate closer cooperation between the EU and Türkiye. Joint research and development efforts could lead to the co-creation of AI tools tailored to deal with specific regional migration dynamics. Capacity-building initiatives leveraging the EU expertise could strengthen Türkiye's AI infrastructure, while securing the GDPR-compliant data-sharing frameworks could facilitate interoperability. However, aligning Turkish data protection legislation with the EU standards remains essential, as the completion of an international agreement on data exchange with Europol is still pending (European Commission, 2024).

In conclusion, while the integration of AI into migration governance offers opportunities for efficiency, innovation, and improved decision-making; ethical risks, technical constraints, and geopolitical complexities remain significant areas of concern. Türkiye's strategic position in the global migration governance migration hub, coupled with its growing AI capabilities, underscores the potential for enhanced cooperation with the EU. Addressing shared challenges through joint research, capacity building, and development and harmonization of data governance frameworks could pave the way for a more resilient, ethical, and evidence-based migration governance system.

5. Conclusion

AI presents transformative possibilities for migration governance, offering tools for efficiency, security, and foresight. Accordingly, the integration of artificial intelligence into migration governance represents both an opportunity and a challenge for the EU-Türkiye relations. While the stalled accession process continues to cast a shadow over broader political cooperation, migration governance remains a cornerstone of strategic engagement between the EU and Türkiye. AI-driven tools, particularly in the domains of border surveillance, identity verification, and asylum, highlight the convergence of security interests between the two. This policy alignment, however, underscores a broader securitized framework wherein migration is often approached through the lenses of containment, control, and risk management.

The EU's migration governance practices reflect a dual priority: enhancing operational efficiency through AI technologies while balancing concerns around ethics, accountability, and human rights. Tools such as biometric systems, predictive analytics, and automated decision-making have streamlined border and asylum management but have also drawn criticism for their opacity, algorithmic bias, and potential to infringe on fundamental rights. The regulatory architecture, particularly the EU AI Act and GDPR, attempts to address these tensions, yet challenges remain in ensuring harmonized implementation across the Member States. The

securitization of migration governance—as embodied by initiatives like the Eurodac modernization, FRONTEX operations, and the ETIAS system—demonstrates a preference for control-oriented AI applications, reinforcing the EU's externalization strategy.

In Türkiye, the adoption of AI technologies in migration governance mirrors the EU's emphasis on security and efficiency. Advanced border surveillance systems, biometric registration tools, and digital platforms like YIMER exemplify Türkiye's commitment to modernizing its migration governance infrastructure. These developments, supported in part by the EU financial and technical assistance, signal growing technological and operational alignment. However, they also raise critical questions about the implications of AI adoption within Türkiye's migration governance framework, particularly in terms of safeguarding human rights, ensuring fairness in asylum procedures, and addressing the humanitarian dimensions of migration governance.

This article highlights that while AI technologies offer the potential to enhance evidence-based decision-making and operational capacities, they simultaneously risk entrenching a security-centric approach to migration governance. In the EU- Türkiye context, this dynamic creates both opportunities for deeper cooperation and challenges for reconfiguring relations beyond a transactional paradigm. The deployment of AI can foster greater collaboration by enhancing data-sharing mechanisms, improving interoperability, and addressing shared migration challenges through innovative technological solutions. Yet, this cooperation must be situated within a framework that prioritizes ethical AI deployment, transparency, and respect for the rights of migrants and refugees beyond complementing securitization of migration as serving a case for externalization of the EU's migration policies as well.

In rethinking the EU-Türkiye migration governance, the integration of AI should serve not merely as a tool for containment but as a catalyst for more sustainable, humane, and evidence-based policies. Leveraging AI's capabilities to support refugee integration, strengthen protection systems, and facilitate durable solutions can contribute to building trust and fostering renewed momentum in the EU-Türkiye cooperation. Such an approach requires a commitment to addressing the ethical, legal, and operational challenges associated with AI, ensuring that technological advancements do not come at the expense of migrants' dignity and rights. Ultimately, the convergence of AI and migration governance presents an opportunity for both actors to reshape their partnership in ways that balance security imperatives with humanitarian principles, offering a path forward for revitalizing EU- Türkiye relations amidst broader geopolitical complexities.

References

ABOMHARA, M., YILDIRIM YAYILGAN, S., NWEKE, L. O., & SZÉKELY, Z. (2021), A comparison of primary stakeholders' views on the deployment of biometric technologies in border management: Case study of SMart mobILity at the European land borders. *Technology in Society*, 64.

BAKER, F., ETYEMEZIAN, H., & JIMENEZ, R. M. (2024), *AI for efficient, evidence-informed humanitarianism*, May 29, https://medium.com/unhcr-innovation-service/ai-for-efficient-evidence-informed-humanitarianism-fd246238a0ad

BANSAK, K. et al. (2018), Improving refugee integration through data-driven algorithmic assignment, *Science*. 359, 325–329.

BEDUSCHI, A. (2021), Artificial intelligence and immigration policy: Ethical and legal implications. *European Journal of Migration and Law*, 23(1), 45-62.

BELLANOVA, R., & DUEZ, D. (2020), AI at the border: Surveillance and migration control. *Security Dialogue*, 51(2), 193-211.

CEYHAN, A., & TSOUKALA, A. (2002), The securitization of migration in Western societies: Ambivalent discourses and policies. *Alternatives*, 27(Special Issue), 21-39.

CHUI, M., HARRYSON, M., MANYIKA, J., ROBERTS, R., CHUNG, R., VAN HETEREN, A., & NEL, P. (2018), *Notes from the AI Frontier: Applying AI for Social Good*, McKinsey Global Institute, Washington D.C., December.

COUNCIL OF THE EU (2022), *A strategic compass for security and defence*,

https://data.consilium.europa.eu/doc/document/ST-7371-2022-INIT/en/pdf

DIMITRIADI, A., KAYA, A., KALE, B. and ZURABISHVILI, T. (2018), *EU-Turkey Relations and Irregular Migration: Transactional Cooperation in the Making*, FEUTURE Online Paper No. 16, https://feuture.uni-koeln.de/sites/feuture/user_upload/FEUTURE_Online_Paper_No_16_D6.3.

EUROPEAN DIGITAL RIGHTS (EDRI) (2024), *EU AI Act fails migrants and people on the move*, https://edri.org/wp-content/uploads/2024/03/Statement-AI-Act-migration.pdf

EUROMED RIGHTS (2023), *AI in border control and surveillance*, November, https://euromedrights.org/wp-content/uploads/2023/11/230929_SlideshowXAI.pdf

EUROPEAN COMMISSION (2024a), *Türkiye,* https://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/turkiye_en#:~:text=T%C3%BCrkiye%20is%20a%20key%20strategic,eligible%20to%20join%20the%20EU.

EUROPEAN COMMISSION (2024b), *Turkey 2024 report*, Brussels, 30.10.2024, SWD 2024 696 final, https://neighbourhood-enlargement.ec.europa.eu/document/download/8010c4db-6ef8-4c85-aa06-814408921c89_en?filename=Türkiye%20Report%202024.pdf.

EUROPEAN COMMISSION (2022), *The use of digitalisation and AI in migration management*, https://www.oecd.org/content/dam/oecd/en/topics/policy-issues/migration/EMN-OECD-INFORM-FEB-2022-The-use-of-Digitalisation-and-AI-in-Migration-Management.pdf.

EUROPEAN COMMISSION (2020a), *EU security union strategy,* 24.7.2020*, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX%3A52020DC0605*.

https://data.consilium.europa.eu/doc/document/ST-7371-2022-INIT/en/pdf

EUROPEAN COMMISSION (2020b), *Opportunities and challenges for the use of artificial intelligence in border control, migration and security*, https://op.europa.eu/en/publication-detail/-/publication/c8823cd1-a152-11ea-9d2d-01aa75ed71a1/language-en

EUROPEAN COUNCIL (2021), *European Council Conclusions on External Relations*, 24 June 2021, 25 June, https://www.consilium.europa.eu/en/press/press-releases/2021/06/25/european-council-conclusions-on-external-relations-24-june-2021/

EUROPEAN UNION (2024). *ETIAS*, https://travel-europe.europa.eu/etias_en

GUTIERREZ, D. (2020), *Interview: Pamela McCorduck, AI industry pioneer*, January 22, https://insideainews.com/2020/01/22/interview-pamela-mccorduck-ai-industry-pioneer/

HIGH-LEVEL EXPERT GROUP ON ARTIFICIAL INTELLIGENCE (AI HLEG) (2019), https://ec.europa.eu/futurium/en/system/files/ged/ai_hleg_definition_of_ai_18_december_1.pdf.

HILDEBRANDT, M. (2022), The politics of AI in EU migration management. *Journal of Common Market Studies*, 60(4), 867-885.

IOM (2021), *World migration report 2022: Chapter 11 - Artificial intelligence, migration and mobility: Implications for policy and practice*, https://publications.iom.int/books/world-migration-report-2022-chapter-11

JONES, C., LANNEAU, R. MACCANICO, Y. (2023), *Europe's Techno Borders*, https://euromedrights.org/wp-content/uploads/2023/07/EuroMed-Rights_Statewatch_Europe-techno-borders_EN-1.pdf

KINCHIN, N., & MOUGOUEI, D. (2022), What can artificial intelligence do for refugee status determination? A proposal for removing subjective fear. *International Journal of Refugee Law*, 34(3-4), 373-397.

LANG, I. G. (2024), Security-centric approach in the use of digital technologies in EU migration and asylum policies. *Transnational Legal Theory*, 1-9.

LEESE, M., NOORI, S., & SCHEEL, S. (2021), Data matters: The politics and practices of digital border and migration management. *Geopolitics*, 27(1), 5-25.

MCAULIFFE, M. (2023), *AI in migration is fuelling global inequality: How can we bridge the gap?*, January 25, https://www.weforum.org/stories/2023/01/ai-in-migration-is-fuelling-global-inequality-how-can-we-bridge-gap/

MOLNAR, P. (2024), *The walls have eyes surviving migration in the age of artificial intelligence*, The New Press: New York London.

MOLNAR, P. (2020), Technology on the margins: AI, migration, and ethics. *AI & Society*, 35(3), 485-498.

MOLNAR, P. ve GILL, L. (2018), *Bots at the Gate: A Human Rights Analysis of Automated Decision-Making in Canada's Immigration and Refugee System*, University of Toronto: Toronto.

MÜFTÜLER-BAÇ, M. (2017), Turkey's future with the European Union: Alternative modes of differentiated integration. *Turkish Studies*, 18(3), 416-439.

NALBANDIAN, L. (2022), An eye for an 'I': A critical assessment of artificial intelligence tools in migration and asylum management", *CMS*, 10: 32.

NAPOLITANO, A. (2023), *Artificial Intelligence: The New Frontier of the EU's Border Externalisation Strategy*, https://euromedrights.org/wp-content/uploads/2023/07/Euromed_AI-Migration-Report_EN-1.pdf

NILSSON, N. J. (2014), *Principles of Artificial Intelligence*, Morgan Kaufmann: Burlington, MA.

OECD (2024). *International Migration Outlook 2024*, November 14, https://www.oecd.org/en/publications/international-migration-outlook-2024_50b0353e-en/full-report/denmark_ac7a5f7f.html

OFFICIAL JOURNAL OF THE EU, (2024a), *Eurodac Regulation*, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024R1358

OFFICIAL JOURNAL OF THE EU, (2024b), *Screening Regulation*, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202401356

OFFICIAL JOURNAL OF THE EU, (2024c), *Asylum Procedure Regulation*, https://eur-lex.europa.eu/eli/reg/2024/1348/oj

OFFICIAL JOURNAL OF THE EU, (2024d), *Schengen Information System Regulation*, https://eur-lex.europa.eu/eli/reg/2024/1348/oj

OFFICIAL JOURNAL OF THE EU, (2024e), *EU AI Act*, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689

OZKUL, D. (2023), *Automating Immigration and Asylum: The Uses of New Technologies in Migration and Asylum Governance in Europe*, Refugee Studies Centre, University of Oxford: Oxford.

REPUBLIC OF TÜRKİYE PRESIDENCY OF MIGRATION MANAGEMENT (PMM) (2024), *Temporary Protection*, https://www.goc.gov.tr/gecici-koruma5638

REPUBLIC OF TÜRKİYE MINISTRY OF INTERIOR (2024). *Sınır Yönetimi Alanında Yürütülen Projeler*,

https://www.icisleri.gov.tr/illeridaresi/sinir-yonetimi-alaninda-yurutulen-projeler

PMM. (2024), *Türkiye'nin Düzensiz Göçle Mücadelesi*, https://www.goc.gov.tr/turkiyenin-duzensiz-gocle-mucadelesi

PRESIDENCY OF REPUBLIC OF TÜRKİYE DIGITAL TRANSFORMATION OFFICE (2024), *Ulusal Yapay Zeka Stratejisi 2021-2025*, https://cbddo.gov.tr/UYZS

RAWASHDEH, S. (2023). *AI's mysterious 'black box' problem, explained*, March 6, https://umdearborn.edu/news/ais-mysterious-black-box-problem-explained

SADIK, G. & KAYA, C. (2020), The Role of Surveillance Technologies in the Securitization of EU Migration Policies and Border Management. *Uluslararası İlişkiler Dergisi*, 17(68): 145–160.

SALGADO, L., & BEIRENS, H. (2023), *What role could digital technologies play in the new EU pact on migration and asylum?*, Policy Brief, Migration Policy Institute, December.

SHEIKH, H., PRINS, C., & SCHRIJVERS, E. (2023), *Artificial intelligence: Definition and background mission AI: The newsSystem technology*, Springer, Cham,15-41.

SPYRATOS, S. et al. (2018), *Migration data using social media: A European perspective*, Publications Office of the European Union: Luxembourg.

STATEWATCH (2022), *A clear and present danger missing safeguards on migration and asylum in the EU's AI Act.* May, *https://www.statewatch.org/media/3285/sw-a-clear-and-present-danger-ai-act-migration-11-5-22.pdf*

TAZZIOLI, M. (2023), Surveillance at sea: Frontex, drones, and AI. *International Migration Review*, 57(1), 113-131.

TURHAN, E., & YILDIZ, A. (2022), Turkey's external differentiated integration with the EU in the field of migration governance: The case of border management", in *The Routledge Handbook of Differentiation in the European Union*, Eds. B. Leruth, S. Gänzle & J. Trondal, Routledge: New York.

TURING, A. M. (1950), Computing machinery and intelligence. *Mind*, 236, 433-435.

UNHCR Türkiye (2024). *Türkiye Factsheet*, https://www.unhcr.org/tr/media/bi-annual-fact-sheet-2024-09-turkiye-pdf

ÜSTÜBİCİ, A. (2019), The impact of externalized migration governance on Turkey: Technocratic migration governance and the production of differentiated legal status. *Comparative Migration Studies*, 7(46), 1-18.

YILDIZ, A. (2016), The European Union's immigration policy: Managing migration in Turkey and Morocco, Springer: London.

Özet

Avrupa Birliği-Türkiye ilişkilerinde yapay zeka ve göç yönetişimi

Yapay zeka (YZ) ve gelişen yeni teknolojiler, veri odaklı analizlere olanak sağlamak ve politika verimliliğini artırma bağlamında göç yönetişiminde önemli bir rol üstlenmektedir. Bu makale, YZ teknolojilerindeki dinamik gelişmelerin göç yönetişimi bağlamında Avrupa Birliği (AB)-Türkiye ilişkilerini nasıl şekillendirdiğini/etkilediğini incelemektedir. Makale, AB'nin yapay zekanın entegrasyonuna yönelik stratejilerini, Türkiye'nin gelişen uygulamalarını ve iş birliği fırsatlarını ele almakta; bu süreçlerdeki jeopolitik karmaşıklıkları vurgularken aynı zamanda ortak çıkarları ön plana çıkarmaktadır. Seçili vaka çalışmaları ve uygulamalara dayanarak, makale göç yönetişiminde yeni teknolojilerin benimsenmesinin, AB-Türkiye iş birliğini gerektirdiğini ve bu iş birliğinin AB üyelik sürecinin geleneksel çerçevesinin ötesinde geliştiğini savunmaktadır. Makalede, iş birliği için potansiyel alanların yanı sıra, güvenlik kaygıları, insan hakları ve kişisel verilerin korunması konusundaki etik ikilemler dahil olmak üzere zorluklar de ele alınmaktadır. Ortak çıkarları vurgulayan bu çalışma, yapay zeka destekli göç yönetişimi karmaşıklıklarını yönetmede ortak çabaların kritik rolüne dikkat çekerken, daha etkili ve adil politika sonuçlarının geliştirilmesini teşvik etmektedir.

Anahtar kelimeler: Türkiye-Avrupa Birliği ilişkileri, göç yönetişimi, yapay zeka, sınır yönetimi, güvenlikleştirme.