

Artificial Intelligence in Criminal Proceedings: Ensuring Legality, Validity and Fairness of Court Verdicts in Uzbekistan

Kodirova Sevarakhon Zoyirjon qizi

Master's Student, Tashkent State University of Law, Tashkent, Uzbekistan

Received: 20 March 2026; **Accepted:** 06 April 2026; **Published:** 30 April 2026

Abstract: This study examines the potential of artificial intelligence technologies to enhance the legality, validity, and fairness of court verdicts in criminal proceedings of the Republic of Uzbekistan. The research analyzes the current legislative framework governing verdict requirements under Article 455 of the Criminal Procedure Code of Uzbekistan, identifies procedural gaps that impede the consistent enforcement of these requirements, and proposes AI-based solutions drawing on the comparative experience of China, Singapore, Canada, and Turkey. The study employs formal-legal, comparative-legal, and system analysis methods to evaluate four specific AI applications: automated court transcription using speech recognition technology, AI-assisted verdict verification for formal compliance with procedural law, comparative sentencing analytics to ensure proportionality across jurisdictions, and structured evidence mapping to support judicial reasoning. The analysis reveals that while Presidential Decree UP-140 of August 21, 2025, establishes the Digital Court concept and mandates automatic real-time protocol formation, the current legal framework lacks explicit procedural guarantees linking these technological innovations to the substantive requirements of legality, validity, and fairness. The study demonstrates that automated transcription directly serves the requirement of validity by creating verifiable records of all evidence examined during trial, that AI-assisted verdict checking supports legality by reducing procedural errors, and that comparative sentencing analytics promotes fairness by ensuring proportionate punishment across similar cases. The research proposes specific amendments to the Criminal Procedure Code, including the addition of reasonableness as a fourth mandatory requirement for verdicts, the establishment of mandatory audio recording as an integral part of the trial protocol in criminal cases, and the creation of a legal framework for AI-assisted judicial support tools that preserve judicial independence while enhancing verdict quality. The findings contribute to the theoretical understanding of how technological guarantees can complement traditional procedural safeguards in ensuring the administration of justice.

Keywords: Digital court, speech recognition, automated transcription, prosecutorial bias, judicial decision-making, procedural guarantees.

Introduction: The administration of criminal justice fundamentally depends on the quality of court verdicts. Article 455 of the Criminal Procedure Code (CPC) of the Republic of Uzbekistan establishes three mandatory requirements for every verdict: legality, validity, and fairness. A verdict is considered legal when issued in full compliance with procedural and substantive law; valid when its conclusions correspond to the factual circumstances established through evidence examined during trial; and fair when the punishment is

proportionate to the severity of the offense and the personality of the offender, or when an innocent person is acquitted and rehabilitated (Beltsov, 2020; Zarakusheva and Zelenkina, 2022).

Despite these clear legislative standards, ensuring their consistent application remains a significant challenge. Statistical data from the Supreme Court of the Republic of Uzbekistan reveal that in 2024, courts convicted 77,995 persons while issuing only 723 acquittals, representing less than one percent of all verdicts.

During the first quarter of 2020 alone, the Supreme Court received 5,137 supervisory complaints, of which 352 were granted, sentences against 303 persons were overturned, and 35 persons had their charges reclassified with reduced sentences. These figures suggest systemic issues in verdict quality that traditional procedural mechanisms alone cannot adequately address (Rogova and Rogov, 2021; Popova, 2019).

The global trend toward judicial digitalization offers promising solutions. China has deployed automatic speech recognition (ASR) systems across more than 2,000 courts, reducing average trial times by 30 percent (Zheng, 2020; Papagiannas, 2023). Singapore developed the Intelligent Court Transcription System (iCTS) providing real-time speech-to-text transcription without court reporters (State Courts of Singapore, 2018). Turkey implemented AI systems for document classification and indictment validation (Stimson Center, 2026). These international developments demonstrate that AI technologies can serve as procedural guarantees of verdict quality rather than mere administrative conveniences.

Uzbekistan has already begun this transformation. Presidential Decree UP-140 of August 21, 2025, established the Digital Court concept, mandating automatic real-time protocol formation and AI-generated draft judicial documents. The Program for Digitalization of the Judicial Sphere for 2025–2027 envisions phased implementation across all courts by 2027. However, the current legal framework lacks explicit linkages between these technological innovations and the substantive requirements of Article 455 CPC.

Several scholars have examined the theoretical foundations of verdict requirements. Gamidov and Alieva (2021) analyzed the structure of conviction verdicts. Magankova (2022) proposed a comprehensive definition of fairness in criminal proceedings. Beltsov (2020) identified the legislative gap regarding reasonableness as a standalone verdict requirement. Rogova and Rogov (2021) demonstrated that appellate courts tend to subsume validity verification under legality checks. Ostapenko (2007) argued that legality, validity, and fairness should be understood as requirements rather than inherent properties of verdicts. However, none of these works systematically examined how AI technologies could serve as procedural mechanisms for ensuring compliance with verdict requirements.

The purpose of this study is to identify specific AI applications that can function as procedural guarantees of verdict legality, validity, and fairness in criminal

proceedings of the Republic of Uzbekistan, drawing on comparative analysis of international experience and proposing concrete legislative amendments.

METHODS

This study employed three primary methodological approaches. The formal-legal method was used to analyze the normative content of Articles 455, 457, 465–470, and 485–493 of the CPC of Uzbekistan, as well as Presidential Decree UP-140 of August 21, 2025, and the Program for Digitalization of the Judicial Sphere for 2025–2027. The comparative-legal method facilitated the analysis of AI implementations in judicial systems of China (System 206, iFlytek ASR), Singapore (iCTS), Canada (ASR systems in Quebec courts), Turkey (speech-to-text systems), and the United Kingdom (Whisper-based legal transcription). The system analysis method was applied to evaluate how specific AI functionalities correspond to each of the three verdict requirements established by Article 455 CPC.

The empirical base included statistical data from the Supreme Court of the Republic of Uzbekistan for the period 2020–2025, including conviction and acquittal rates, appellate and cassation review outcomes, and data on overturned verdicts. The study also analyzed the Resolution of the Plenum of the Supreme Court of the Republic of Uzbekistan No. 2 of May 2, 1997, On the Court Verdict, which identified systemic deficiencies in verdict quality, as well as the Resolution of March 25, 2024, on appellate and cassation procedures.

The international experience was examined through primary sources including judicial policy documents, technical specifications of deployed systems, and empirical assessments published in peer-reviewed literature. The Chinese Smart Courts initiative was analyzed through the lens of published data on ASR deployment coverage, trial time reduction metrics, and the System 206 architecture. The Singapore iCTS was examined based on official documentation from the State Courts and the Agency for Science, Technology and Research (A*STAR).

RESULTS AND DISCUSSION

Theoretical Framework: Verdict Requirements and Technological Guarantees

The distinction between properties and requirements of a verdict, articulated by Ostapenko (2007) and further developed by Kadyrov (2019), provides the theoretical foundation for understanding AI as a procedural guarantee. If legality, validity, and fairness were inherent properties of verdicts, they could not be absent from any verdict by definition. However, judicial practice demonstrates that numerous verdicts are overturned precisely for lacking these qualities.

Consequently, they are better understood as requirements—standards that courts are obligated to meet but may fail to achieve. This understanding creates a productive analytical framework: if these are requirements, the question becomes what mechanisms can ensure their fulfillment. AI technologies represent a new category of such mechanisms—technological guarantees that complement traditional procedural safeguards.

Article 455 CPC establishes three explicit requirements but omits reasonableness (*motivirovannost*) as a separate standard. As Beltsov (2020) noted, this constitutes a legislative gap: while the descriptive-motivational part of the verdict (Article 467 CPC) implicitly requires the court to explain its reasoning, Article 455 does not list reasonableness among mandatory requirements. The practical significance of this gap becomes evident when a verdict is factually supported by evidence (valid) but lacks explanation of why certain evidence was accepted and other rejected (unreasoned). As Mikhaylov (2018) and Tuzov (2020) demonstrated, these are distinct qualities that should not be conflated. This study proposes adding reasonableness as a fourth requirement, formulated as follows: The court verdict must be legal, valid, fair, and reasoned.

The Resolution of the Plenum of the Supreme Court of May 2, 1997, identified a critical practical problem: in a number of cases, courts based their verdicts exclusively on evidence obtained during preliminary investigation that had not been examined or confirmed during trial proceedings. This finding reveals a direct connection between trial protocol completeness and verdict validity. If the protocol fails to accurately reflect what evidence was actually examined in court, it becomes impossible to verify whether the verdict meets the validity requirement. This is precisely the problem that automated transcription technology addresses.

AI Application I: Automated Court Transcription and Verdict Validity

Automated speech recognition represents the most mature and widely deployed AI application in judicial systems globally. In China, the iFlytek ASR system, approved by the Expert Appraisal Committee of the Supreme People's Court in December 2016, has been implemented in over 2,000 courts nationwide, covering more than 80 percent of all courts. The system doubles transcription speed for court clerks from 120–150 to 250–350 words per minute, reducing overall trial time by approximately 30 percent (Duke University Judicature, 2025). In courtrooms equipped with the System 206, telescreens display relevant information—arrest warrants, witness statements, interrogation

records, and video clips—automatically prompted by voice recognition as the trial progresses (Cambridge Core, 2020).

Singapore's State Courts developed the Intelligent Court Transcription System in collaboration with A*STAR's Institute for Infocomm Research. The system provides instant access to recorded evidence on individual computer monitors in courtrooms simultaneously. The judge and all parties, including prosecutors and defense counsel, can immediately review oral testimonies and evidence. When the system detects unclear or inconsistent speech, speakers can be prompted to speak more clearly, and clarification can be sought immediately using the search function (OpenGovAsia, 2018). Before implementation, external service providers required approximately seven days to fully transcribe court proceedings.

For Uzbekistan, the connection between automated transcription and verdict validity is direct and measurable. Article 455 CPC defines a valid verdict as one whose factual circumstances are established with the necessary completeness and in exact correspondence with actual events. Article 488 CPC lists the absence of a trial protocol or its unsigned status as an unconditional ground for verdict reversal. The Plenum of the Supreme Court has repeatedly emphasized that verdicts may only be based on evidence examined during trial and reflected in the trial protocol. Consequently, any incompleteness or inaccuracy in the protocol directly undermines the verifiability of verdict validity.

The current system relies on manual transcription by court clerks, who physically cannot record every word. Critical details—exact witness statements, specific questions posed by defense counsel, precise responses by defendants—are frequently omitted or paraphrased. Automated transcription eliminates this structural limitation by creating a verbatim record of the entire proceeding. When combined with mandatory audio recording as an integral part of the protocol, this creates a dual verification mechanism: the text can be checked against the audio, and appellate courts can independently assess whether the evidence referenced in the verdict was actually examined during trial.

Presidential Decree UP-140 already mandates that protocols be formed automatically in real time. However, the decree does not establish the legal status of automated transcription or its relationship to verdict requirements. This study proposes amending the CPC to establish that the validity of a verdict is ensured, *inter alia*, by the completeness of trial proceedings

documentation using technical means, and that audio recording constitutes a mandatory component of the trial protocol in criminal cases, with priority given to the audio recording in cases of discrepancy with the text.

AI Application II: Verdict Verification and Legality

The legality requirement encompasses two dimensions: procedural legality (compliance with all CPC norms during proceedings) and substantive legality (correct application of Criminal Code norms in qualifying the offense and imposing the sentence). Both dimensions are susceptible to verification through AI-assisted analysis.

An AI verification module integrated into the Digital Court platform could automatically cross-reference the draft verdict against the case materials and trial transcript. Specifically, the system could verify whether every piece of evidence cited in the verdict appears in the trial protocol as having been examined; whether the descriptive-motivational and operative parts of the verdict are internally consistent; whether the Criminal Code articles applied correspond to the factual circumstances described; and whether mandatory procedural steps (defendant's last word, defense counsel's speech, etc.) were completed as required by Article 457 CPC.

This approach does not substitute judicial reasoning but provides a quality control mechanism analogous to spell-checking in word processing. The judge retains full independence in decision-making but receives notification of potential formal errors before the verdict is finalized. Turkey has implemented similar systems, including the Belonging Decision Estimation and Inconsistency Detection in Bill of Indictment AI systems, which validate indictment data and expedite decision allocation (Stimson Center, 2026).

China's System 206 goes further by analyzing whether evidence forms a chain meeting the statutory standard of proof. After displaying evidence, the system evaluates the completeness and consistency of the evidentiary basis. While this level of AI involvement raises legitimate concerns about judicial independence, a more modest verification system focused on formal compliance rather than substantive assessment preserves the constitutional principle of judicial independence while reducing procedural errors.

AI Application III: Comparative Sentencing Analytics and Fairness

The fairness requirement under Article 455 CPC demands that punishment be proportionate to the severity of the offense and the personality of the offender. Fairness also implies consistency: similar cases should receive similar treatment. However, in the

absence of systematic data on sentencing patterns, individual judges may impose significantly different sentences for comparable offenses without objective justification.

A comparative sentencing analytics module could aggregate anonymized sentencing data across all courts in Uzbekistan and display the statistical range of sentences imposed for similar offenses. When a judge drafts a verdict with a sentence substantially deviating from the established range, the system would flag the discrepancy—not to override the judge's discretion, but to prompt additional justification. This mechanism directly supports the reasonableness requirement: significant deviations from established practice require more thorough explanation.

China's Similar Case Intelligent Recommendation System and Justice Big Data Service Platform already enable judges and the public to search past decisions and find similar situations to inform potential outcomes (Springer, 2022). Egypt has developed an AI tool estimating spousal support in alimony cases by analyzing annotated datasets of historical court cases (Stimson Center, 2026). Shanghai's 206 AI System analyzes past cases and legal codes, assisting with evaluating evidence and identifying sentencing severity ranges.

For Uzbekistan, with its 2024 caseload of 77,995 convictions and the geographic disparity in judicial workload across regions, such a system would serve both fairness and transparency. The low acquittal rate (less than one percent) may reflect not only the quality of preliminary investigation but also what scholars have termed prosecutorial bias—the readiness of judges to agree with the prosecution, treating the trial as a formality rather than a genuine evaluation of evidence (Pozdnyakov, 2011; Voskobitova, 2014). A comparative analytics system would make sentencing patterns visible and subject to scrutiny, creating institutional pressure toward greater proportionality.

AI Application IV: Structured Evidence Mapping and Judicial Reasoning

Complex criminal cases involving multiple defendants, numerous witnesses, and extensive documentary evidence impose significant cognitive demands on judges. AI-assisted evidence structuring can organize the evidentiary base into a systematic framework: cataloguing each witness's testimony, identifying consistencies and contradictions across testimonies, correlating expert conclusions with other case materials, and presenting the complete picture in a navigable format.

This application directly supports both the validity and reasonableness requirements. Validity demands that

the court's conclusions be confirmed by evidence examined during trial. Reasonableness requires the court to explain why certain evidence was accepted and other rejected. An evidence map facilitates both tasks by making the evidentiary landscape transparent and ensuring that no significant piece of evidence is overlooked in the verdict's reasoning.

The Plenum of the Supreme Court's 1997 Resolution specifically noted that courts must indicate in the verdict, in the presence of contradictory evidence of essential significance, why certain evidence was deemed reliable and other evidence was rejected. An AI evidence mapping tool would systematically identify such contradictions and ensure they are addressed in the motivational part of the verdict.

Implementation Framework for Uzbekistan

The phased implementation strategy must account for the existing Digital Court infrastructure and the bilingual nature of Uzbek judicial proceedings (Uzbek and Russian languages). The current phase (2026) should focus on establishing the legal framework: amending Article 455 CPC to include reasonableness as a fourth requirement and to link verdict validity to the completeness of technical documentation of trial proceedings; adopting a Plenum resolution on the use of automated transcription and audio recording in criminal proceedings.

In the near-term phase (2026–2027), the 12 pilot courts already equipped with video broadcasting systems in Namangan, Surkhandarya, and Khorezm regions should be augmented with ASR capabilities in both Uzbek and Russian. The system should operate in parallel with manual transcription initially, allowing accuracy assessment. The medium-term phase (2027–2028) should extend automated transcription to all criminal courts, transition clerks from recording to editing roles, and pilot the verdict verification and sentencing analytics modules. The long-term phase (2028–2030) should achieve full integration of all AI modules into the Digital Court platform, including automated translation for bilingual proceedings.

Throughout all phases, the fundamental principle must be preserved: AI serves as an assistive tool, not a decision-maker. The constitutional principle of judicial independence (Article 112 of the Constitution of the Republic of Uzbekistan) requires that the final decision always remains with the human judge. AI provides information, identifies potential issues, and facilitates reasoning—but does not adjudicate.

CONCLUSIONS

This study demonstrates that artificial intelligence technologies can function as procedural guarantees of

verdict quality in criminal proceedings, complementing rather than replacing traditional safeguards established by the Criminal Procedure Code of the Republic of Uzbekistan. Four specific AI applications were identified and linked to the three statutory requirements of Article 455 CPC: automated court transcription ensures verdict validity by creating verifiable records of evidence examination; AI-assisted verdict verification supports legality by identifying procedural errors before finalization; comparative sentencing analytics promotes fairness by ensuring proportionality across jurisdictions; and structured evidence mapping enhances both validity and reasonableness by facilitating comprehensive judicial reasoning.

The comparative analysis of China, Singapore, Canada, and Turkey confirms the technical feasibility and practical effectiveness of these applications. China's experience with ASR deployment across more than 2,000 courts and Singapore's real-time transcription system in the State Courts demonstrate that the technology is mature and adaptable to different legal systems.

The study proposes three specific legislative amendments: adding reasonableness as a fourth mandatory verdict requirement in Article 455 CPC; establishing mandatory audio recording as an integral component of the trial protocol in criminal cases; and creating a legal framework for AI-assisted judicial support tools that preserves judicial independence while enhancing verdict quality. These proposals align with and complement Presidential Decree UP-140 of August 21, 2025, and the Program for Digitalization of the Judicial Sphere for 2025–2027, providing the theoretical and legal foundation that the current technological reform requires.

The practical significance of these findings extends beyond technological implementation. By framing AI tools as procedural guarantees rather than mere administrative conveniences, this study contributes to the broader theoretical discourse on the nature of verdict requirements and the mechanisms for their enforcement in the digital age of criminal justice.

REFERENCES

1. Beltsov, A.I., 2020. Zakonnost, obosnovannost i spravedlivost prigovora v ugovnom protsesse [Legality, validity, and fairness of verdicts in criminal proceedings]. *Vestnik Sankt-Peterburgskogo universiteta MVD Rossii*, 3(87), 120–128 (in Russian).
2. Gamidov, A.M., Alieva, P.A., 2021. Obvinitelnyy prigovor v sisteme ugovnogo sudoproizvodstva [Conviction verdict in the criminal justice system].

- Yuridicheskiy vestnik DGU, 38(2), 152–158 (in Russian).
3. Garneau, N., Bolduc, O., 2024. The State of Commercial Automatic French Legal Speech Recognition Systems and their Impact on Court Reporters. arXiv preprint arXiv:2408.11940.
 4. Kadyrov, D.U., 2019. Svoistva i trebovaniya k sudebnomy prigovoru [Properties and requirements for court verdicts]. Rossiyskiy sudya, 5, 34–39 (in Russian).
 5. Kostyukov, D.Yu., Garmaev, Yu.P., 2022. Prigovor suda: poryadok i problemy postanovleniya [The verdict of the court: the order and problems of the ruling]. Bulletin of Science and Practice, 8(6), 625–634. <https://doi.org/10.33619/2414-2948/79/66>
 6. Magankova (Sivolova), A.A., 2022. Spravedlivost v sfere ugovnogo protsessa [Fairness in criminal proceedings]. Candidate of Legal Sciences dissertation. Moscow (in Russian).
 7. Malikov, M.F., 2014. Retrospektivnyy analiz sudebnogo prigovora [Retrospective analysis of the adjudication]. Eurasian Advocacy, 1(8), 71–74 (in Russian).
 8. Mikhaylov, A.N., 2018. Motivirovannost prigovora kak ego svoistvo [Reasonableness of the verdict as its property]. Ugolovnoye pravo, 4, 87–93 (in Russian).
 9. Ostapenko, I.A., 2007. Prigovor kak itogovoye resheniye po ugovnomu delu [The verdict as the final decision in a criminal case]. Candidate of Legal Sciences dissertation abstract. Vladimir (in Russian).
 10. Papagiannas, S., 2023. Artificial Intelligence in the Chinese Judiciary: Current State and Future Potential. AI and Ethics, 3(4), 1125–1140. <https://doi.org/10.1007/s43681-022-00202-3>
 11. Popova, I.P., 2019. Prigovor suda i yego znachenie v ugovnom sudoproizvodstve [Court verdict and its significance in criminal proceedings]. Sibirskiye ugovno-protsessualnyye i kriminalisticheskiye chteniya, 4(26), 45–53 (in Russian).
 12. Pozdnyakov, M., 2011. Obvinitelnyy ukлон i korporativnyye soobrazheniya [Prosecutorial bias and corporate considerations]. Yuridicheskaya gazeta, 3, 15 (in Russian).
 13. Rogova, A.A., Rogov, A.V., 2021. Obosnovannost prigovora: problemy opredeleniya i proverki [Verdict validity: problems of definition and verification]. Vestnik Tomskogo gosudarstvennogo universiteta. Pravo, 40, 88–102 (in Russian).
 14. State Courts of Singapore and A*STAR, 2018. Speech Transcription System for Use in Courts. Press Release, December 15, 2017. Retrieved from <https://www.a-star.edu.sg/i2r/partnerships/government-agencies/state-court>
 15. Stimson Center, 2026. AI in Global Majority Judicial Systems. Retrieved from <https://www.stimson.org/2026/ai-in-global-majority-judicial-systems/>
 16. Tuzov, N.A., 2020. Motivirovannost sudebnykh aktov [Reasonableness of judicial acts]. Moscow, Norma (in Russian).
 17. Voskobitova, L.A., 2014. Obvinenie ili obvinitelnyy ukлон? [Prosecution or prosecutorial bias?]. Aktualnyye problemy rossiyskogo prava, 3, 455–462 (in Russian).
 18. Zarakusheva, K.R., Zelenkina, V.N., 2022. Trebovaniya zakona k prigovoru suda [Legal requirements for court verdicts]. Molodoy uchenyy, 15(410), 290–293 (in Russian).
 19. Zheng, G.G., 2020. China's Grand Design of People's Smart Courts. Asian Journal of Law and Society, 7(3), 561–582. <https://doi.org/10.1017/als.2020.16>