

AI in Maritime Arbitration: *Experiences and Perspectives from the United States*

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I. Introduction

The United States is at the forefront of technological developments in the legal world. A lot of legal tech is being developed in America, and AI is already being used in all kinds of legal fields: in business and the legal profession, but also in arbitration institutes and mediation platforms.

As a US-based maritime arbitrator, I was deeply immersed in AI trainings, discussions, pilot projects, and practical applications throughout 2025. In this article, I will share key learnings, practical case experiences, and reflections on how AI is likely to shape the day-to-day work of a maritime arbitrator in the years ahead.

II. AI in the life of a US arbitrator

The impact of AI on our current way of working is being compared to the impact that the advent of electricity and the internet had at the time. Although AI has already made significant inroads in sectors such as healthcare, financial services, and manufacturing, its application in legal practice is still in its infancy. The development of so-called Large Language Models (hereinafter: language models) ensures that AI can now also generate and understand complex (legal) texts. The level of “understanding” can be quite deep; it can identify patterns, relationships, and anomalies within document training sets. And, importantly, AI can perform those tasks at a herculean scale within a matter of minutes (or less). It is these language models in particular that are (or will be) transforming the world of dispute resolution, for example in the field of legal research, the collection of data in the preparation or handling of a case, and the writing of procedural documents and (parts of) judgments.¹

* I would like to thank Robert A. Milana, Esq, a NY maritime attorney and member of the SMA, for providing me with inspiration and case information for this article.

¹ See, among others, D.L. Evans, S. Guillon, R. Losey, V. Washington & L.G. Yancey, Dispute Resolution Enhanced: How Arbitrators and Mediators Can Harness Generative AI, Dispute Resolution Journal (78) 2024, issue 1, pp. 57-92. This article describes how AI can help predict the (possible) outcome of cases, how natural language processing can assist in legal research in preparation for a case by summarizing documents and distilling important information, how generative AI can be used to make legal information accessible, and how language models can be helpful in

Much of today's legal technology is being developed in the US and artificial intelligence is already being applied across a wide range of legal contexts - including business and legal practice, as well as arbitration institutions and mediation platforms. Major strides are also being made in the field of online dispute resolution (ODR). ODR uses an online platform to resolve disputes between parties in an efficient, accessible, and often faster manner. ODR has been around since the 1990s and was first used in the e-commerce world. Providers such as eBay, PayPal, and Amazon now also use AI on their ODR platforms to resolve common claims, such as those relating to delayed deliveries or minor warranty disputes. These systems can offer a solution within minutes, but can also refer disputes to a human decision-maker.² In the US, many courts also use ODR platforms to resolve certain standard case flows, such as parking fines and debt collection cases, more quickly.³

The American Arbitration Association (AAA), the largest (non-profit) arbitration institute in the world, is a pioneer in the field of technological innovations in dispute resolution. The AAA's mission is to provide faster, cheaper, and fairer dispute resolution, and (generative) AI helps to achieve this goal. In addition, AI should help make the law more accessible to more people.⁴ The AAA is therefore investing heavily in partnerships with legal tech companies, including for the development of AI tools that can be used by the AAA in the administration and management of its cases and by its arbitrators and mediators in handling cases. I am one of many AAA arbitrators who have now been trained in the use of the generative AI platform Clearbrief. Thanks to this training, I have been able to experience for myself how AI can help in preparing a case for hearing and judgment. For example, by creating summaries of procedural documents and generating factual and procedural timelines. I was also impressed by the help the (secure) platform offered in verifying statements and the speed with which all information was processed. The promise of AI in terms of efficiency was more than fulfilled. The training also helped me overcome my resistance to AI and become more open to its potential for our legal practice. And ultimately, the training also led to this ICMA paper.

A growing body of research shows that the use of AI can lead to significant efficiency gains and quality improvements in legal practice.⁵ This will reduce the costs of proceedings and

² See www.thomsonreuters.com/en-us/posts/ai-in-courts/scaling-justiceai-adr-reshaping-legal-access/?utm_source=chatgpt.com.

³ See L. Moran, Online Dispute Resolution Promises to Increase Access to Justice, But Challenges Remain, ABA Journal, October 2021, see www.abajournal.com/magazine/article/online-dispute-resolution-promises-to-increase-access-to-justice-but-challenges-remain?

⁴ The AAA podcast "AI and the Future of Law," in collaboration with the Practising Law Institute, is highly recommended if you would like to learn more about this topic.

⁵ See also D. Schwartz et al., AI-Powered Lawyering: AI Reasoning Models, Retrieval Augmented Generation, and the Future of Legal Practice

(Minnesota Legal Studies Research Paper No. 25-1G), March 4, 2025, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=51G2111#, and R.J. Couture, The Impact of Artificial Intelligence on Law Firms' Business Models, Harvard Law School – Center on the Legal Profession, February 25, 2025, <https://clp.law.harvard.edu/knowledgehub/insights/the-impact-of-artificial-intelligence-on-law-law-firmsbusiness-models>.

increase their speed. But that is not the biggest change we can expect from AI in the field of dispute resolution. In my opinion, the biggest change lies in the predictions that AI can make about the chances of success of a case. Using machine learning algorithms and historical data, AI tools can predict the likely outcome of disputes based on factors such as certain characteristics of a case, previous settlement trends, and legal precedents, provide an estimated settlement range, identify potential risks, or highlight factors that influence the possible outcome of the case.⁶

Predicting the outcome of a case, is not the same as deciding a case by AI. That is something that, beyond the world of e-commerce, is generally not accepted. The AAA however is also in this area coming with a ground-breaking initiative.

Rather than using AI merely to forecast outcomes or provide settlement analytics, the AAA has introduced an “AI Arbitrator” for certain two-party, documents-only construction disputes.⁷ The system does not replace the human arbitrator; instead, it operates as a structured decision-support engine. Parties submit their pleadings and evidence through a dedicated platform. The AI Arbitrator organises the record, identifies factual and legal issues, analyses the material against patterns derived from prior AAA construction awards, and generates a draft reasoned award. A human AAA arbitrator then reviews, revises where necessary, and ultimately signs and issues the final decision. The initiative therefore preserves human adjudication while embedding AI deeply into the analytical core of the process.

What makes this development particularly noteworthy is that it relies on data drawn from a large body of prior AAA construction awards - reportedly more than 1,500 anonymised decisions - which have been curated and structured for machine learning purposes. The AAA is able to pursue this initiative because it administers a high volume of cases and retains institutional access to awards (subject to confidentiality safeguards and anonymisation). Unlike ad hoc arbitration, where data remains dispersed and inaccessible, an administering institution can aggregate, anonymise and standardise its historical case material for internal analytical use without breaching party confidentiality. Participation in the AI Arbitrator programme is voluntary and requires party consent, thereby preserving party autonomy - a cornerstone of arbitration.

⁶ E. Hussein, *AI Meets Mediation: Shaping the Future of Dispute Resolution in a Digital World*, *Arbitration: The International Journal of Arbitration, Mediation & Dispute Management* (2) 2025, p. 184.

⁷ <https://www.adr.org/ai-arbitrator/> and Mealey's International Arbitration Report, “International Arbitration Experts Discuss The Use Of An AI Arbitrator For Construction Arbitrations”, Vol. 40, #12, December 2025

III. Available maritime arbitration data and AI

The AAA AI arbitrator demonstrates that AI-assisted adjudication is technically feasible where an institution has sufficient scale, data access, and governance infrastructure. Whether such a model could emerge in maritime arbitration depends therefore less on technological capability and more on structural questions: data aggregation, consent, transparency, and the profession's appetite for algorithmic assistance in decision-making.

A key difference between AAA institutional arbitration and (mostly) ad hoc maritime arbitration is the availability of data. The vast majority of maritime arbitrations are conducted under the LMAA rules and these awards are mostly confidential and unpublished. The publicly accessible LMAA data consists for a large part of

- Court challenges (s.67, s.68, s.69 of the English Arbitration Act 1996),
- Summaries in Lloyd's Maritime Law Newsletter,
- Academic commentary and textbooks.

From a machine-learning perspective, the data pool is thin and highly selective, so an open access AI tool like ChatGPT will not have sufficient data to make proper predictions.

The US Society for Maritime Arbitrators (SMA), by contrast, has long accepted that arbitration decisions can be shared with the industry. SMA awards are often published in full, including the names of the parties and arbitrators, unless there is a specific request for redaction. Historically these awards were published in:

- SMA Award Reports
- Maritime Arbitration Reports

In 2025 the SMA entered into a collaboration with Jus Mundi, an AI-driven research platform for international law and arbitration.⁸ The partnership makes the SMA's extensive library of maritime arbitration awards - numbering more than 4,500 reasoned decisions - globally searchable through Jus Mundi's database, which is accessible only upon subscription. Although Jus Mundi is a legal research platform and does not use AI to forecast outcomes, it is the most advanced AI tool available for maritime arbitration awards.

⁸ <https://jusmundi.com/en/coverage/maritime-arbitration>

IV. What does AI ‘think’ of its role in maritime arbitrations?

Since this is an article about AI, I have also turned to ChatGPT to ask the question whether it will be able to predict outcomes in maritime arbitrations. The short answer was “no”. The longer answer was that court prediction models rely on public judgments, identifiable judicial patterns and structured precedents. Maritime arbitration differs because (1) arbitrators vary widely in approach, (2) many decisions turn on commercial credibility, (3) evidential nuance often outweighs legal doctrine and (4) procedural conduct can shape outcomes materially. According to ChatGPT, AI cannot reliably model:

- Witness credibility,
- Arbitrator temperament,
- Commercial context,
- Tactical dynamics during the reference.

There is however a caveat to make here. Not every maritime arbitration case is the same and some cases are more “predictable” for AI than others. So I turned to ChatGPT again with the question to provide me with a breakdown of types of maritime disputes that are more predictable than others with an explanation why that is the case. I got an answer that was convincing enough to include it in this article. Therefore, please see below a variety of maritime disputes, from High to Low on the ‘predictability spectrum’.

High Predictability Disputes

1. Time Bar & Notice Compliance Disputes

Examples:

- Clause 6 laytime time-bars
- GA time-bars
- Demurrage claim documentation requirements
- Off-hire notice requirements

Why Predictable:

- Highly textual analysis.
- Binary compliance questions.
- Often documentary only.
- Large body of English authority.

- Arbitrators apply well-established construction principles.

These disputes often turn on:

Was notice served? Was it in time? Did it contain required information?

AI (and lawyers) perform well here because the issues are structured and rule-based.

2. Construction of Standard Form Clauses

Examples:

- Off-hire under NYPE
- Interruption of laytime
- Safe port warranties
- Liberty clauses

Why Predictable:

- Heavy precedent.
- Standard wording.
- Repeated judicial interpretation.
- Maritime trade familiarity.

Where wording is unamended, outcome risk narrows significantly.

Unamended GENCON or NYPE clauses are generally more predictable than rider clauses.

3. Jurisdiction & Validity of Notice Issues

Examples:

- Was arbitration properly commenced?
- Was tribunal properly constituted?
- Waiver under s.31?
- Was there a binding arbitration agreement?

Why Predictable:

- Governed by the Arbitration Act 1996.

- Substantial Commercial Court guidance.
- Legal (not evidential) questions.
- Courts favour commercial validity.

These are doctrinal disputes rather than credibility disputes.

Moderate Predictability Disputes

4. Demurrage Quantum Disputes

Why Moderately Predictable:

- Formula-driven.
- Often mathematical.
- But can involve:
 - Factual laytime calculations,
 - NOR validity,
 - Weather interruptions,
 - Custom of port.

The law is predictable; the facts may not be.

5. Safe Port / Safe Berth Claims

Why Mixed:

- Legal test is clear.
- But outcome depends on:
 - Local port conditions,
 - Foreseeability,
 - Nautical evidence,
 - Expert testimony.

These disputes become fact-heavy.

The legal framework is predictable; factual application is not.

6. Off-Hire Claims involving Technical Causation

Why Mixed:

- Clause construction predictable.
- Causation analysis less so.
- Engineering evidence may be contested.
- Arbitrator evaluation of experts becomes decisive.

Outcome often hinges on credibility of technical evidence.

Low Predictability Disputes

7. Misrepresentation & Pre-Contractual Negotiation Disputes

Why Unpredictable:

- Fact-intensive.
- Heavily credibility-driven.
- Documentary record often incomplete.
- Intention and reliance questions subjective.

Tribunal impressions matter greatly.

AI performs poorly here because:

- No structured pattern.
- Human behavioural assessment dominates.

8. Mitigation & Reasonableness Disputes

Why Unpredictable:

- “Reasonableness” is evaluative.
- Commercial context dominates.
- Arbitrators exercise judgment.

Two experienced arbitrators may reasonably differ.

9. Allegations of Bad Faith / Dishonesty

Why Highly Unpredictable:

- Credibility central.
- Oral evidence decisive.

- Cultural and commercial norms influence assessment.
- Documentary nuance critical.

V. Use of AI by Parties

AI makes legal knowledge accessible to the entire world and it improves the access to justice for many. On the other hand, AI can also negatively impact the justice system by polluting the record with errors or fabricated information, being hallucinations.

Courts in the United States are now wrestling with the improper use of AI. Judges across the country have sanctioned attorneys for citing fake cases generated by AI.⁹ “Many harms flow from the submission of fake opinions.”¹⁰ Fake citations waste both the public's and the opposing party's resources; cast doubt on both “judges and courts whose names are falsely invoked as authors of the bogus opinions” and on “the part[ies] attributed with [sic] fictional conduct”; and “promote cynicism about the legal profession and the American judicial system.”¹¹

Some USA court are now requiring that “...counsel and unrepresented filers must further certify that no generative AI program was used in drafting the document presented for filing, or to the extent such a program was used, all generated text, including all citations and legal analysis, has been reviewed for accuracy and approved by a human.”¹² Arbitrators if not compelled by the parties should undertake to affirm the same information. The insistence on human oversight is compelling since arbitration adjudication inherently involves ethical, contextual, and interpretative nuances that current AI systems cannot replicate.

Arbitrators must therefore ensure that scientific and technical evidence is accurate and that legal arguments are sound - a responsibility that will only grow as parties increasingly use AI in preparing their submissions.

⁹ Maura Grossman, Paul Grimm, Daniel Brown, & Molly Xu, *The GPT Judge: Justice in a Generative AI World*, 23 Duke L & Tech Rev 1 (2023).

¹⁰ *United States v. Hayes*, 763 F. Supp. 3d. 1054, 1071–_73 (E.D. Cal. 2024) (collecting cases).

¹¹ *Mata v. Avianca, Inc.*, 678 F. Supp. 3d. 443, 448 (S.D.N.Y. 2023); Plaintiff attorneys filed brief that “included non-existent judicial opinions with fake quotes and fake citations created by [AI] tool; see also *In Re Martin*, 670 B.R. 636 (N.D. Ill. 2025) wherein attorneys “failed to confirm the existence and validity of legal authorities cited in brief which had been written with use of [AI], which briefs produced “fake quotes and non-existent authorities...” Federal Rules of Civil Procedure, 11, 28 U.S.C. § 1927. Ezzy, supra.

¹² *Park vs Kim*, 91 F.4th 610 (2nd Cir. 2024)

VI. Use of AI by Arbitrators

Just like Parties, Arbitrators can use AI to enhance their practice. They can ask AI to comb documents for certain facts, consolidate and compile answers, analyze conflicting positions, identify evidentiary inconsistencies, analyze contracts, summarize documents with varying levels of detail and digest timelines, among other functions.

The next, and final, section of this article will discuss how arbitrators can do this in a responsible way. This section will discuss a case where the arbitrator was possibly not as responsible as he could have been.

Lapaglia v Valve Corporation is a previously pending lawsuit in the United States District Court for the Southern District of California that gained the attention of the USA arbitration world. Claimant Lapaglia petitioned the federal court in California to vacate an award because the human arbitrator relied on AI information and the petitioner alleged in doing so “outsourced” his role as arbitrator. The Petition was dismissed for lack of subject matter jurisdiction on December 9, 2025, but may be refiled¹³; however, this case raises questions about the role of AI in the arbitration process and may set forth limits on its use.

The arbitration involved claims by Lapaglia of antitrust violations by Value arising from a purchased computer game. The arbitrator rapidly produced a 29-page decision and published it the day before he went on vacation.¹⁴ Lapaglia alleged that the arbitrator used ChatGPT to write or assist in writing the award and that by generating the award in whole or part using an AI function the arbitrator exceeded his authority as per the United States Federal Arbitration Act (FAA) 9 USC Section 10.25.¹⁵

Section 10(a)(4) of the FAA permits vacatur where an arbitrator “exceeded their powers.” This occurs when an arbitrator acts outside the scope of the parties’ contractual agreement.¹⁶ Petitioner Lapaglia argued that AI was used to draft the award, supplanting the Arbitrator’s fact finding and adjudicative role with facts found by a machine. Thus, the Arbitrator exceeded his authority provided in the parties’ arbitration agreement which provided a “neutral arbitrator” to resolve disputes between them and provide “a written decision” and a “statement of reasons” for the arbitrator’s holding. Lapaglia argued that by

¹³ *Lapaglia v Value Corporation*, 3:25-CV-00833, (S.D. Cal. filed April 8, 2025), Docket #19.

¹⁴ Amended Petition to Vacate Arbitration Award, filed May 19, 2025, at 4: (“The hearing took place over 10 days, generating a 2,000-page transcribed record. Final briefing was complete December 23, 2024, and the Award, at 29 pages long, was issued 15 days later January 7, 2024, when [Arbitrator] was scheduled to leave for [a Galapagos Island vacation] ...”).

¹⁵ *Lapaglia*, supra, at 9.

¹⁶ *Cristo v. Charles Schwab Corp.*, 2021 U.S. Dist. LEXIS 244294, 2021 WL 6051825, *12-13 (S.D. Cal. 2021).

relying on AI, the arbitrator “betrays the parties’ expectations of a well-reasoned decision rendered by a human arbitrator.”¹⁷

Lapaglia argued the Award had telltale signs of AI generation, including cited facts that were both untrue and not presented at trial or present in the record. Petitioner also asked ChatGPT whether the award was written by ChatGPT and received an affirmative answer.¹⁸ Lapaglia further argued this sort of hallucinating or mixing up of facts is frequent when using AI tools to write content. Using AI permits the AI entity to “find facts.” which are like the issue before it and use its ability to “research the internet” to incorporate a multitude of facts and information to support its conclusion which is improper.¹⁹

The *LaPaglia* challenge underscores a simple but important warning for arbitrators experimenting with generative AI: *caveat emptor*. The technology may accelerate research and drafting, but it does not displace the arbitrator’s duty to verify sources, reasoning, and factual assertions.

VII. Practical Tips when using AI

In this last section, I will share some tips that I have collected in the past year when educating myself on the use of AI. I hope they will be useful for you as well.

Tips for responsible AI use

- AI isn’t Google. Don’t just ask questions to retrieve facts - treat it as a *collaborative and creative partner* for brainstorming and structuring ideas.
- Transparency: Always be transparent about your use of AI with all parties involved in the arbitration.
- Human Oversight: AI tools are aids, not replacements for human judgment. Always verify the AI's output (see also next point).
- Inaccuracy & hallucinations: “Hallucination-free AI” does not exist - AI doesn’t know truth from falsehood so do your fact check and verify AI’s legal research
- Confidentiality: Ensure that any AI tools you use comply with confidentiality requirements. Not every paid AI platform protects the data you input
- Prompt Engineering: Learn how to craft effective prompts to get accurate and relevant results from AI. This is a crucial skill. The more context and clarity you give in your prompt, the better your results.

¹⁷ *Lapaglia*, supra, at 9-10.

¹⁸ *Lapaglia*, supra, at 10.

¹⁹ *Lapaglia*, supra, at 8-10.

- Bias: Bias is real. Be aware of that and use inclusive, neutral prompts to overcome that.
- Cross-Verification: Use multiple sources to verify the information generated by AI.
- Legal Databases: Combine AI tools with reputable legal databases to ensure accuracy.
- Follow up: Don't stop after one response. Keep the conversation going - refine, iterate, and follow up.

Tips to enhance your arbitrator practice and efficiency:

- Document Management: Use AI to organize and manage large volumes of documents efficiently.
- Automated Summaries: Generate concise summaries of key arguments and evidence.
- Procedural Automation: Explore how AI can streamline procedural tasks, such as scheduling and communication.
- Authenticating digital evidence: Metadata Analysis: Learn how to use AI to analyze metadata and verify the authenticity of digital files.

A final word of encouragement: if you are like I was a year ago, the rapid emergence of AI may feel overwhelming or even intimidating. Yet AI is not going away, and the better course is to engage with it rather than shy away from it. To remain future-ready, arbitrators should stay curious, experiment responsibly, and keep informed about developments in AI. When you approach AI tools with an open mind while maintaining the professional judgment that our role demands, you are in a very good position to move forward from here.

SHORT BIOGRAPHY

Marieke Witkamp FCIArb is an international arbitrator based in Houston, TX and a member of Arbitra International. Marieke worked on 3 continents and has over 20 years of dispute resolution experience. She has gained her dispute resolution experience as (i) a commercial judge at the court of Rotterdam in the Netherlands, (ii) an arbitration attorney in Qatar with K&L Gates, (iii) as (foreign) lawyer at a boutique litigation firm in Houston, TX and as (iv) in-house counsel in the Dutch energy industry and Qatar's sports industry.

When Marieke was acting as a judge, she was one of only four maritime district judges in the Netherlands.

Marieke has an LLM in US and Dutch Law, is licensed in Texas, and holds a CIArb diploma in International Maritime Arbitration. She is an Aspiring Full Member of the LMAA, a board member of the Houston Maritime Arbitrators Association and listed in arbitration rosters around the world.

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