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Wensdai Brooks

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ARTIFICIAL BIAS: THE ETHICAL CONCERNS OF AI-DRIVEN DISPUTE RESOLUTION IN FAMILY MATTERS

*Wensdai Brooks*¹

I. INTRODUCTION

From the global positioning systems (GPS) that guide our morning commute to the more complex machine learning systems used to build Spotify's curation algorithms, artificial intelligence (AI) has become a central part of the way that society functions efficiently.² AI has become increasingly integrated into our daily lives, permeating consumer and corporate worlds alike.³ Despite a reputation for being slow to adopt new technology, the legal field has been particularly forward in embracing the use of AI to increase docket speeds, optimize case management, and fill gaps in access to justice.⁴ An impressive array of programs now exists, creating a virtual legal system that allows individuals to draft a will, revise a contract, or attend a deposition—all from home.⁵ From self-represented clients using a digital divorce template to law firms using advanced AI programs to determine the statistical and precedential likelihood of their client securing custody of their children during a contentious divorce,⁶ these programs run the gamut in capability and ease of access. AI programs can be used to create parenting plans and separation agreements, divide assets among parties, and draft terms of divorce based on various forms of historical and legal data.⁷ These programs represent an important advancement in the legal field's ability to remain relevant in an increasingly automated world and can be helpful in expediting what is normally an arduous and lengthy process.

However, they might also introduce bias that typical (i.e., human) judicial involvement would prevent.⁸ The concern for bias comes, in part, from the data sets used to create AI-based dispute resolution programs that aim to predict or help determine the outcome of a particular situation—such as the likelihood of obtaining a particular settlement amount or

¹ B.A., University of Missouri, 2020; J.D. Candidate, University of Missouri School of Law, 2023; Associate Member, *Journal of Dispute Resolution*, 2021-2022. I am grateful to Professor Jayne Woods and Professor Amy Schmitz for their insight, guidance, and support during the writing of this Note, as well as the *Journal of Dispute Resolution* for its help in the editing process. Special thanks to M.A. and K.A. for their constant encouragement and support.

² See Jackie Snow, *Most Americans Are Already Using AI*, MIT TECH. REV. (Mar. 7, 2018), <https://www.technologyreview.com/2018/03/07/104695/most-americans-are-already-using-ai/>.

³ *Id.*

⁴ See Anthony Davis, *The Future of Law Firms (and Lawyers) in the Age of Artificial Intelligence*, 27 THE PROF. LAW. 3, 4-5 (2020) https://www.americanbar.org/groups/professional_responsibility/publications/professional_lawyer/27/1/the-future-law-firms-and-lawyers-the-age-artificial-intelligence.

⁵ See Alan Carlson, *Imagining An AI-Supported Self-Help Portal for Divorce*, 59 JUDGES' J. 26 (2020).

⁶ See *id.* at 26-27; see also Davis, *supra* note 4, at 5.

⁷ Carlson, *supra* note 5, at 27.

⁸ Diane Holt et al., *Examining Technology Bias: Do Algorithms Introduce Ethical and Legal Challenges?*, BUS. L. TODAY (Mar. 21, 2019), <https://businesslawtoday.org/2019/03/examining-technology-bias-algorithms-introduce-ethical-legal-challenges/>.

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securing a specific custodial agreement.⁹ Because this data represents the foundational building blocks of the processes used to produce a result, biases present in the initial data might become further built-in to the program—becoming more deeply ingrained in the algorithm as the data is more frequently relied on.¹⁰ Furthermore, because these systems require human involvement to carefully gather, distill, and combine expert knowledge into binary rules and classifications, there is the concern that bias might be manually imputed based on which specific factors a programmer chooses to code as more or less relevant for a particular type of dispute.¹¹

This note seeks to analyze the primary legal and moral-based ethical concerns that AI programs pose, particularly when used in family law matters. Part II provides a detailed overview of what AI is—both generally and as it relates to the legal field and family law. Part III provides a brief overview of some of the more traditional legal processes that AI technology seeks to replace, and highlights areas where human facilitators typically provide the most value. Part IV presents a more focused overview of the programs currently available for AI-based dispute resolution in family law matters. Part V examines several specific moral and legal ethical issues associated with the increasing use of automated and AI-based dispute resolution programs. This note aims to inform the legal community of these issues, not to disparage innovation or instill a distrust of AI, but rather to open a discussion of these problems so they may be accounted for if and when it is technically feasible to do so. Online Dispute Resolution (ODR) and AI-based technology represent important steps forward in providing equitable access to family law services, so it is critical that such programs are designed with these issues and their remedies in mind. Remedies such as maintaining human influence and decrypting “black-box” style-algorithms represent the best chances for improving access to AI-based family law solutions while avoiding artificial bias.

II. WHAT IS ARTIFICIAL INTELLIGENCE (AI)?

AI involves the study and development of machine-based human intelligence.¹² It is an umbrella term for an area of technology that encompasses “computer science, mathematics, philosophy, psychology, economics, neuroscience, linguistics, and biology.”¹³ It includes simple systems such as the GPS used by programs like Waze¹⁴ and Google Maps,¹⁵ as well as more powerful (but still user-friendly) systems like the augmented form of

⁹ See Gizem H. Kasap, *Can Artificial Intelligence (“AI”) Replace Human Arbitrators? Technological and Legal Implications*, J. DISP. RESOL. 209, 212–15 (2021).

¹⁰ *Id.* at 225–26.

¹¹ *Id.* at 212.

¹² Arno Lodder & John Zeleznikow, *Artificial Intelligence and Online Dispute Resolution*, in ONLINE DISPUTE RESOLUTION: THEORY AND PRACTICE 91 (Mohamed S. Abdel Wahab et al., 2012).

¹³ Sergio David Becerra, *The Rise of Artificial Intelligence in the Legal Field: Where We Are and Where We Are Going*, 11 J. BUS., ENTREPRENEURSHIP & L. 27, 32 (2018).

¹⁴ Scott Orgera, *What is Waze and How Does It Work?*, LIFEWIRE (Dec. 2, 2020), <https://www.lifewire.com/what-is-waze-4153570>.

¹⁵ Kavya Nambiar, *How Do Google Maps Work?*, ANALYTIC STEPS (June 6, 2021), <https://www.analyticssteps.com/blogs/how-do-google-maps-work>.

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machine learning used by Intuit’s TurboTax.¹⁶ More complex systems, such as those that rely on rule or case-based reasoning, or neural networks, have fewer apparent consumer uses but have several current and proposed uses in the legal field.¹⁷ In the context of this note, the term “AI-based lawyering” refers to the use of processes and programs, performed by computer software instead of an attorney, that mirror the outcome of a case in which a practitioner performed the work manually.¹⁸

The most substantial programs, in terms of both widespread use and level of advanced technology, are e-discovery and document management programs.¹⁹ Traditionally, legal discovery involved countless hours and countless interns to manually review documents, extract needed data, and compile it into a readable collection of information.²⁰ Now, e-discovery has moved that process to electronic databases where programs can identify, collect, review, research, and preserve information while producing readable documents ready for attorney review.²¹ What previously took dozens of labor-intensive hours can now be done quickly, efficiently, and with a greater accuracy than before.²² Most e-discovery programs use software that filters documents and electronically stored information through databases that search for keywords that either the attorney or the agency has determined to be relevant.²³ These databases are made up of massive legal knowledge bases, hand-coded by engineers and developers, and modeled after logic systems that represent legal knowledge as a set of rules.²⁴

These rule-based systems classify and sort information based on a set of pre-determined rules, in the form of: “If X, then Y.”²⁵ For example, “If you are filing for custody, then a parenting plan is needed” could be coded as custody filing -> parenting plan; where custody means a filing for the legal and/or physical control of a minor child and parenting plan means a required legal instrument providing instructions for the division of time and responsibility for a minor child between two separate parties.²⁶ In practice, a program using rule-based reasoning, such as the one in the example above, could be used in a client-intake setting where legal practitioners could quickly review client documents to ensure completeness or compile the necessary forms for a specified filing with the click of a button.²⁷

In addition to rule-based reasoning, several other forms of AI offer robust mechanisms of operation that vary in complexity. Case-based reasoning is similar to rule-based reasoning in that both processes use massive knowledge bases.²⁸ Case-based reasoning

¹⁶ *Future/Now: Reimagining Business with AI*, WIRED MAG. (2018), <https://www.wired.com/brandlab/2018/08/reimagining-business-ai/>.

¹⁷ See John Zeleznikow & Andrew Stranieri, *Split Up: An Intelligent Decision Support System Which Provides Advice Upon Property Division Following Divorce*, 6 INT’L J. L. & INFO. TECH. 190, 190 (1998).

¹⁸ Becerra, *supra* note 13, at 38.

¹⁹ *Id.* at 39, 42.

²⁰ *Id.* at 40.

²¹ *Id.* at 39.

²² *Id.* at 40–41.

²³ Becerra, *supra* note 13, at 39.

²⁴ Lodder & Zeleznikow, *supra* note 12, at 74–75.

²⁵ *Id.* at 75.

²⁶ This example was adapted from an example described in Zeleznikow & Stranieri, *supra* note 17, at 191.

²⁷ Zeleznikow & Stranieri, *supra* note 17, at 190.

²⁸ Lodder & Zeleznikow, *supra* note 12, at 75.

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differs in that, rather than representing legal knowledge with rules, it analyzes data from previous case outcomes to determine the best or most likely solution for a novel issue.²⁹ While not simple by any means, both rule- and case-based reasoning systems present more static forms of AI, as both systems require human involvement to input more data and “learn” new things.³⁰

Machine learning systems, however, do not require human involvement past the initial stage of designing and coding the algorithm.³¹ Machine learning systems are highly advanced AI systems that attempt to learn new knowledge automatically by using predictive analytics to analyze massive quantities of data—using it to automatically create new algorithms it can then use to interpret new data.³² Similarly, a neural network, aptly named for its branching resemblance of the human nervous system, consists of thousands “self-adjusting processing elements co-operating in a densely interconnected network.”³³ Those elements transmit signals to one another, with the strength of each signal dependent on the strength of various “weighting factors” such as how important it is to the element of the case, how much courts consider it, etc.³⁴ The strength of the weighting factors is adjusted autonomously by the system as new data is processed, without the need for manual input or re-coding.³⁵

These highly advanced systems can be programmed with legal knowledge bases, built from past case outcomes, applicable law and legal procedure, an analysis of attorney arguments, and a database of ways in which various judges combined case variables to reach a particular outcome.³⁶ Those knowledge bases can then be used to create a virtual tool that is able to guide a client through the first steps of initiating a family law matter, and, after answering a set of prompted questions about the details of the specific situation, the tool could provide a likely outcome of the judgment.³⁷ The tool could then walk the client through the remaining steps for opening a court case, including gathering the necessary information to populate a pre-filled form, sending it to the other party for review, automatically integrating agreed upon changes, and e-filing the documents on their client’s behalf.³⁸ While no current application exists with the capabilities to walk a client through a divorce or custody case from start to finish, recent developments in AI make it reasonable to anticipate that such an application could exist within the next ten years.³⁹

III. TRADITIONAL LAWYERING IN FAMILY LAW MATTERS

Before the development of modern AI systems, traditional lawyering was a tedious, labor-intensive process that involved hours of poring through books, manually drafting and

²⁹ *Id.* at 82.

³⁰ Kasap, *supra* note 9, at 213.

³¹ *Id.* at 212.

³² Becerra, *supra* note 13, at 37.

³³ Zeleznikow & Stranieri, *supra* note 12, at 196.

³⁴ *Id.*

³⁵ *Id.*

³⁶ Carlson, *supra* note 5, at 27.

³⁷ *Id.*

³⁸ *Id.* at 27–28.

³⁹ *Id.* at 30.

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copying documents, and using expensive courier services to exchange documents between attorneys and clients.⁴⁰ By the late 2000s, technology advanced far enough to allow for streamlined intake processes, remote access to documents, and digital filing systems.⁴¹ Traditionally, these tasks were performed by human practitioners with limited assistance from technology.⁴² However, the practice has evolved such that *traditional* practice now includes techniques that incorporate, rather than completely exclude, technology.⁴³ Many traditional practitioners successfully incorporate more basic technologies into their practice, such as the use of remote video conferencing for mediation.⁴⁴ For example, in highly contentious conflicts, such as divorces where domestic violence has been alleged, remote technology can be one of the only ways parties may participate in alternative dispute resolution (ADR) due to safety concerns.⁴⁵ Rather than focus on practices that exclude technology outright, for the purposes of this section, the term *traditional lawyering* refers to practices that center the human nature of the profession and use technology merely to extend services remotely or expedite them digitally.

Even with the efficiency boost that AI programs provide,⁴⁶ the human element of the field remains a vital element in the profession. Family law is an area of law that most people find themselves exploring suddenly, with limited or no legal assistance.⁴⁷ The wealth of digital services that the internet promises offers a tangible, and often low-cost benefit to an individual desperate for guidance in unfamiliar territory.⁴⁸ Despite the immense volume of digital information and virtual programs that exist in the online family law environment, clients (i.e., non-lawyers) seeking such information often find it difficult to navigate and understand the complexities of what they find.⁴⁹ Complex court forms and confusing case law can make it difficult for even the most astute layperson to navigate their way through a custody case. In addition to the difficulties of dissecting the law, accessing, and utilizing legal processes is another difficulty that clients without representation must often overcome. In Missouri, for example, there are limited ways that an individual can access domestic dispute resolution without the need for an attorney, and none of them currently include any

⁴⁰ Ron Friedmann, *Back to the Future: A History of Legal Technology*, PRISM LEGAL (Dec. 1, 2004), https://prismlegal.com/back_to_the_future-a-history-of-legal-technology/.

⁴¹ *Id.*

⁴² See Josiah M. Daniel, *A Proposed Definition of the Term "Lawyering"*, 101:2 LAW LIBRARY J. 207, 209 (2009).

⁴³ See Randolph Kahn, *Law's Great Leap Forward: How Law Found a Way to Keep Pace with Disruptive Technological Change*, BUS. LAW TODAY (Nov. 20, 2016), https://www.americanbar.org/groups/business_law/publications/blt/2016/11/03_kahn/.

⁴⁴ Examples include programs such as Zoom, Skype, Microsoft Teams, and WebEx.

⁴⁵ Susan L. Brooks, *Online Dispute Resolution and Divorce: A Commentary*, 21 DISP. RESOL. MAG., Jan. 11, 2015, at 18; Kristen M. Blankley, *Online Resources and Family Cases: Access to Justice in Implementation of a Plan*, 88 FORDHAM L. REV. 2121, 2141 (2020).

⁴⁶ Linda S. Smith & Eric Frazer, *Child Custody Innovations for Family Lawyers: The Future is Now*, 51 FAM. L.Q. 193, 197 (2017).

⁴⁷ Felicity Bell, *Family Law, Access to Justice, and Automation*, (19) MACQUARIE L. J. 103, 131 (2019).

⁴⁸ *Id.* at 132.

⁴⁹ *Id.*

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form of ODR.⁵⁰ As a result of these complexities, self-guided technology is unlikely to be an appropriate substitute in all cases.⁵¹

While traditional, face-to-face dispute resolution may not present a viable alternative for *every* case, this section showcases the situations in which it *does* provide a benefit over ODR. Traditional family dispute resolution typically involves an impartial third party (e.g., mediator, arbitrator, counselor, etc.) who facilitates the resolution of family disputes by promoting the use of relationship-centered counseling to reach voluntary agreements.⁵² Relationship-centered counseling involves the use of professionally facilitated discussion to help parties see themselves as part of a greater relationship with others, rather than as self-reliant individuals with independent and mutually exclusive interests.⁵³ This helps parties improve their interpersonal skills and can allow previously contentious parties to achieve some level of mutual understanding.⁵⁴ Studies have shown that voluntary settlements of family disputes not only reduce the emotional and economic costs of dispute resolution, but it also allow families to shape their agreements to best suit individual family needs and values, reducing the potential for continuing conflict between the parties.⁵⁵

In addition to resolving disputes, traditional family mediation generally results in greater client satisfaction with the legal process as a whole.⁵⁶ The realm of family law is typically an emotionally charged one, wherein the parties enter having already been pushed to their proverbial limits, either by the other party or a collection of circumstances outside of their direct control.⁵⁷ Mediation allows them to regain a sense of that control, with the facilitator ensuring fair negotiation and equal bargaining power between the parties without imparting the facilitator's own opinions or values.⁵⁸ This allows most parties to come to an enforceable agreement that each side is mostly satisfied with.⁵⁹ Parties who utilize traditional, human facilitated dispute resolution practices often create more specific and detailed agreement than would have been imposed on them by a judge.⁶⁰ Such agreements are more likely to be followed, as they take into consideration the highly individualized nature of such disputes in a way that standardized agreements cannot.⁶¹ Furthermore, traditional dispute resolution practices often encourage participants to find healthy, meaningful ways of communicating through emotional outbursts, whereas ODR can “shield” them from emotional

⁵⁰ Danielle Linneman, *Online Dispute Resolution for Divorce Cases in Missouri: A Remedy for the Justice Gap*, 2018 J. DISP. RESOL. 281, 287 (2018).

⁵¹ *See id.* at 281.

⁵² Andrew Schepard, *An Introduction to the Model Standards of Practice for Family and Divorce Mediation*, 35 FAM. L. Q. 1, 3 (2001).

⁵³ Brooks, *supra* note 45, at 18.

⁵⁴ *Id.*

⁵⁵ Schepard, *supra* note 52, at 3.

⁵⁶ *Id.* at 4–6 (citing a study that found that 50-70 percent of parents characterized the family law system as “impersonal, intimidating, and intrusive.” whereas such feelings were not as significantly present in parents whose disputes were handled through dispute resolution processes).

⁵⁷ *Id.* at 2.

⁵⁸ *Id.* at 14, 17.

⁵⁹ *Id.* at 3.

⁶⁰ Schepard, *supra* note 52, at 5 (citing data from numerous studies showing that parties using issue-focused mediation attained “full resolution in one-half, and partial resolution in two-thirds, of all custody and [visitation] access”).

⁶¹ *Id.*

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situations that—while awkward—can actually move negotiations forward by providing a deeper understanding of each party’s interests and motivations.⁶² Take for example, a traditional mediation involving the distribution of assets after a marriage dissolution. The tense emotions involved in such a situation can create impassés that make it hard for the parties to see past their emotions and act logically to resolve their problem.⁶³ Emotional outbursts can be cathartic for the parties involved, particularly in the presence of a skilled mediator involved who can help the parties understand the motives behind each other’s intense emotions.⁶⁴ Mediators can guide the parties through these moments, helping the parties empathize with one another and maximizing the potential for a positive resolution.⁶⁵

So, while the world of *traditional lawyering* has been duly permeated by AI-boosted processes, such as the ability to quickly research precedent⁶⁶ or remotely counsel a client, the human element involved cannot—and should not—be removed. Clients who find themselves lost in a sea of very complex issues will continue to need and seek out traditional lawyers, particularly when vulnerable parties and complex issues, such as the care and custody of children, are involved.⁶⁷

IV. AI-BASED LAWYERING IN FAMILY LAW MATTERS

The category of technologies that only augment traditional family law practices may be more appropriately considered as the “first wave” of advanced technologies aiding in the overhaul of family law practice.⁶⁸ The “second wave” contains even more advanced systems of automated document review, natural language processing, and machine-learning.⁶⁹ As an increasing number of judicial processes become automated in some way, widespread use of these systems in both family law and general practice are more likely than ever. Advanced algorithms are already being used in trial courts to handle pretrial disposition and sentencing by allowing judges to easily compare data from the defendant and the circumstances of alleged crime with data from similarly situated prior offenders in an attempt to assess a new offender’s potential recidivism rate.⁷⁰ One such program, the Correctional Offender Management Profiling for Alternative, is used to help judges set bail and decide whether to grant parole.⁷¹

COMPAS is an AI-based decision support tool that uses data from an intensive survey—covering topics such as age, gender, criminal background, relationship history—to

⁶² Brooks, *supra* note 45, at 18.

⁶³ Becca Brennan, *Online Dispute Resolution and Divorce*, 21 DISP. RESOL. MAG., Jan. 11, 2015, at 15.

⁶⁴ *Id.* at 17; see Brooks, *supra* note 45.

⁶⁵ Brooks, *supra* note 45.

⁶⁶ Becerra, *supra* note 13, at 41 (noting that legal research has incorporated the use of technology substantially. For example, legal search engines such as WestLaw and LexisNexis utilize keyword searches to quickly sort through data to provide relevant results for the user).

⁶⁷ Bell, *supra* note 47, at 132.

⁶⁸ Smith & Frazer, *supra* note 46, at 193.

⁶⁹ *Id.*

⁷⁰ Gerald J. Whalen, *Technology and the Quest for True Equality*, N.Y. L. J. (April 30, 2021), <https://plus.lexis.com/api/permalink/1ff13e35-1796-4a83-b985-c8d0c3e88ba2/?context=1530671>.

⁷¹ John Koebler, *Rise of the Robolawyers: How Legal Representation Could Come to Resemble Turbo Tax*, THE ATLANTIC (2017) <https://www.theatlantic.com/magazine/archive/2017/04/rise-of-the-robolawyers/517794>.

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evaluate the likelihood that a defendant will flee if released on bond or re-offend if released on parole.⁷² Such a program could be a useful and detailed decision support tool in family law matters, as the intensive survey resembles the interrogatives typically exchanged during divorce and custody cases. However, Northpointe, the developer responsible for COMPAS, has not made the algorithm used by COMPAS accessible to the public, so it is unknown precisely how the software uses those factors to reach a conclusion.⁷³ Discussed in more detail later on, the inability to see and adjust the weight of each decision factor presents a substantial obstacle that ethical practitioners must face when using or designing such programs.

For family law matters, the most popular systems include ones such as those offered by Wevorce,⁷⁴ SmartSettle,⁷⁵ coParenter,⁷⁶ DivorceBot,⁷⁷ Online Family Wizard,⁷⁸ LexMachina,⁷⁹ and Modria.⁸⁰ These programs vary in sophistication and analytical models but offer a wide swath of accessible options for clients and practitioners. In the realm of ODR, Modria is considered one of the oldest, yet more advanced forms of technology currently in use in the family law environment.⁸¹ Modria offers a scalable solution that combines law, economics, and psychology to help self-represented litigants manage and resolve their

⁷² *Id.*; see *Practitioner's Guide to COMPAS Core*, NORTHPOINTE (2015), <https://s3.documentcloud.org/documents/2840784/Practitioner-s-Guide-to-COMPAS-Core.pdf>.

⁷³ Koebler, *supra* note 71.

⁷⁴ Wevorce offers a set of self-guided tools that allows self-represented litigants (SRLs) to dispute resolutions virtually. See Diana Shepard & Aimee Laurence, *How Artificial Intelligence Could Impact the Future of Family Law*, FAM. LAW. MAG. (Aug. 27, 2021), <https://familylawyermagazine.com/articles/artificial-intelligence-and-the-future-of-family-law/>. For example, users can take a number of assessments such as a Divorce Readiness Quiz, fill out necessary forms such as parenting plans and asset division sheets, and access mediators and coaches for up to three hours per month. *Id.*

⁷⁵ SmartSettle is a widely used negotiation support system that uses “game theoretic techniques”—i.e., techniques based on the zero-sum thinking model promulgated by John von Neumann—to provide users with solutions it believes to be fair, based on the level of satisfaction the solution provides with respect to each parties’ interests. See Lodder & Zeleznikow, *supra* note 12, at 73.

⁷⁶ The coParenter system allows parties to make ad hoc requests (sent directly to the other party for approval via a mobile application) to make temporary changes to their parenting plan. See Blankley, *supra* note 45. The coParenter system also provides parties with access to both live human mediators, as well as AI mediators. *Id.*

⁷⁷ DivorceBot is internet-based chat bot system, created by a team of Cambridge University law students, that asks users a set of questions and talks them through a variety of scenarios meant to help clarify the user’s legal position. DivorceBot can then provide a comprehensive explanation of the legal processes, average costs, and forms needed so that individuals are better prepared when seeking counsel. See *Divorce Bot Launches a Family Law Legal Bot*, ARTIFICIAL LAWYER (2017) <https://www.artificiallawyer.com/2017/02/21/divorce-bot-launches-the-family-law-legal-bot/>. Unlike the other programs, DivorceBot does not attempt to substitute its system for the advice of an attorney or the services of an expert facilitator. *Id.*

⁷⁸ Online Family Wizard (OFW) is a case management tool, whose use is often mandate by family law courts in Missouri. OFW offers several unique features for co-parents to better manage custody schedules and interfamilial communications. See Blankley, *supra* note 45, at 2142. One such feature is called “ToneMeter” an application that allows parties to have their messages to one another reviewed by an AI system that then flags statements that could be misread or interpreted by the other party as being offensive. *Id.*

⁷⁹ Lex Machina, owned by LexisNexis, uses natural-language processing to search millions of court opinions for patterns in outcomes, using those patterns to predict the outcome of novel disputes. See Bell, *supra* note 47, at 132; see also Koebler, *supra* note 71.

⁸⁰ See Blankley, *supra* note 45, at 2142; see also Smith & Frazer, *supra* note 46, at 193.

⁸¹ Shepard & Laurence, *supra* note 74.

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disputes through the use of online mediation platforms supervised by experts.⁸² Modria begins by collecting relevant data from the parties in order to provide a summary of the dispute as well as find and highlight any areas of agreement.⁸³ The program then uses deductive reasoning to provide the parties with a selection of potential solutions.⁸⁴

Split-Up, designed by John Zeleznikow and Andrew Stranieri, is a hybrid, rule-based reasoning neural network system and another example of highly advanced AI technology being used in the legal field.⁸⁵ Split-Up is an intelligent decision support system that provides advice on the division of marital assets following a divorce.⁸⁶ Split-Up uses a knowledge base modeled after Toulmin's theory of argumentation.⁸⁷ Stephen Toulmin, a British philosopher who sought to develop a series of "good, realistic arguments," concluded that all arguments consist of six consistent parts: claims, data, warrant, backing/support, qualifiers, and rebuttal.⁸⁸ At the core of Toulmin's theory is the idea that in order for an argument to succeed, it must have solid justification for its claim.⁸⁹ According to Zeleznikow and Stranieri, encoding a technical version of Toulmin's model into the system allows Split-Up to generate explanations for the conclusions that it reaches—something neural network systems are typically incapable of doing.⁹⁰ The system also incorporates a three-step model proposed by Zeleznikow and Arno Lodder.⁹¹ First, the system uses its broad, legal knowledge base to calculate a list of potential outcomes to the dispute, were the negotiation to fail—i.e., the "best alternative to a negotiation agreement" (BATNA).⁹² Then, it attempts to resolve existing conflicts with argumentation tools (discussed in detail below) before leaving any remaining conflicts to be included in a facilitated resolution, where the tool employs decision analysis techniques to apply "trade-off" strategies—offering the parties a balanced agreement for review.⁹³ Should any part of the offered agreement be objected to by either party, the tool allows the parties to reject the agreement and return to the earlier parts of the resolution stage.⁹⁴

While not as widely used as e-discovery and intake management programs, these programs offer a distinct advantage for family law practitioners—flexibility. The ability for attorneys to remain flexible in the face of safety concerns related to domestic violence, or other circumstances that prevent a client's in-person attendance (lack of childcare,

⁸² *Id.*

⁸³ Dana Remus & Frank Levy, *Can Robots Be Lawyers: Computers, Lawyers, and the Practice of Law*, 30 GEO. J. LEGAL ETHICS 501, 530 (2017).

⁸⁴ *Id.*

⁸⁵ Zeleznikow & Stranieri, *supra* note 17, at 190.

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.* at 206; see Kip Wheeler, *Toulmin Model of Argument* (2010), <https://web.cn.edu/kwheeler/documents/Toulmin.pdf>.

⁸⁹ STEPHEN TOULMIN, *THE USES OF ARGUMENT* 6–7 (1958).

⁹⁰ Zeleznikow & Stranieri, *supra* note 17, at 208.

⁹¹ Lodder & Zeleznikow, *supra* note 12, at 92.

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.*

transportation issues, illness, etc.) is a modern extension of the attorney's ability to show empathy for the client, building trust and develops rapport even when done virtually.⁹⁵

V. ETHICAL CONCERNS

Technology involvement increases benefits for both participants and practitioners alike, but no benefit is without cost. The use of AI increases the risks for all parties involved in the action. Of particular issue are the unique ethical concerns that AI poses to its inclusion in the legal field, such as bias, the imposition of standard judgments on non-standard conflicts, a lack of transparency and accountability, and potential violations of the ethical standards and licensing requirements that bind traditional lawyers.⁹⁶

A. AI is only as good as the data it's built on. Biased data, biased AI.

Just as a chain is only as strong as its weakest link, AI is only as good as the data used to create it.⁹⁷ Incomplete or inadequate training data, flawed programming, and errors in algorithm developments can render the results produced by such systems so inaccurate as to render it ineffective for a client's purpose.⁹⁸ More concerning, however, is that these flaws in the data may create a feedback loop within the algorithm that perpetuates biases and may result in unintentional discrimination that puts both the client and the practitioner at risk for significant consequences.⁹⁹

Algorithm bias, which occurs when an algorithm produces prejudiced results due to flawed programming and biased or incomplete data, represents a new threat to judicial fairness that begs the attention of both practitioners and students alike.¹⁰⁰ Biases in machine-learning software can grow exponentially, as they become further incorporated into the system's predictive patterns.¹⁰¹ These pattern systems—which the AI uses to identify relevant predictive features of a case and match those features to outcomes in cases with similar fact patterns to determine the likely outcome—offer several paths for bias to infect the system. The two most common paths are (1) the incomplete and/or biased data sets used to train the algorithm and (2) the way that the algorithm is designed.¹⁰² For example, the historical data

⁹⁵ Kelsey R. Ruskowski & Samuel J. Blanton, *Using Remote Technology in Legal Practice: Attorney-Client and Attorney-Staff Relationships*, NYSBA (Oct. 14, 2020), <https://nysba.org/using-remote-technology-in-legal-practice-attorney-client-and-attorney-staff-relationships/>; see Dominic Thomas & Robert Bostrom, *Building Trust and Cooperation through Technology Adaption in Virtual Teams: Empirical Field Evidence*, 25 INFO. SYS. MGMT. 51, 54 (2008) (finding that when traditional in-person meetings are not feasible due to exigent circumstances such as prohibitive costs or the inability to travel, business people using videoconferencing can maintain a sense of trust and connection with their clients through the use of virtual meeting spaces).

⁹⁶ Brooks, *supra* note 65, at 18.

⁹⁷ THOMAS REID, *ESSAYS ON THE INTELLECTUAL POWERS OF MAN* 43 (1878).

⁹⁸ Diane Holt et al., *supra* note 8.

⁹⁹ Bell, *supra* note 47, at 132; Patrick Huston & Lourdes Fuentes-Slater, *The Legal Risks of Bias in Artificial Intelligence*, LAW360 (2020), https://assets.website-files.com/5cb0b06571c2a70d6460e2bc/5ed6bf8ebe6e399bcc54666af_The%20Legal%20Risks%20Of%20Bias%20In%20Artificial%20Intelligence.pdf.

¹⁰⁰ Huston & Fuentes-Slater, *supra* note 99.

¹⁰¹ *Id.*

¹⁰² *Id.*

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used to populate the knowledge bases these programs rely on can be patchy at best, leaving incomplete, nonrepresentative data sets that fail to account for the individual intricacies of each dispute because a large percentage of litigation is either settled out of court, dropped, or dismissed.¹⁰³ If machine-learning knowledge bases are built solely on data comprised of final judgements, to the exclusion of the mediated settlements and non-litigated agreements that represent a bulk of legal outcomes, the predictions they produce would be based on data that fails to accurately represent the most likely or “typical” outcome.¹⁰⁴

Case-based systems that use historical data to predict outcomes may also unwittingly perpetuate biases by relying on the data and information those cases provide.¹⁰⁵ For example, a male client participating in an AI-facilitated mediation against a female client to determine custody arrangements for their child may be placed at a disadvantage, as historical data tends to favor mothers in custody arrangements, albeit only slightly.¹⁰⁶ The use of historical data in an age of rapid social change also begs the question as to whether these knowledge bases will be able to account for the shift in social norms and judicial attitudes.¹⁰⁷ While bias has arguably lessened its grip on judicial precedent over time, the exclusive use of historical data to decide modern cases can lead to biased output if the data used reflects patterns of historical discrimination rather than the merits of the existing case.¹⁰⁸

B. Artificial Agreements ignore conflicts and interests unique to individual parties.

There are aspects of the dispute resolution model that are “inherently human” and cannot be replaced by even the most complex AI systems.¹⁰⁹ For example, personal values cannot always be digitized and codified but are critically important in family law disputes.¹¹⁰ This can cause issues when a non-human entity is tasked with creating an agreement that revolves almost exclusively around personal values. Child custody, for instance, is meant to be awarded based on several best-interest factors.¹¹¹ These factors vary state-to-state but generally include such factors as the needs of the children, the mental and financial capacities of the parents, and the domestic history of the family involved.¹¹² These factors can be complicated further when domestic violence, psychological issues, and co-parenting issues are involved.¹¹³

¹⁰³ See Amy J. Schmitz, *Expanding Access to Remedies through E-Court Initiatives*, 67 *BUFF. L. REV.* 89, 111–112 (2019); Kate Beioley, *Robots and AI Threaten to Mediate Disputes Better Than Lawyers*, *FIN. TIMES* (Aug. 13, 2019) <https://www.ft.com/content/187525d2-9e6e-11e9-9c06-a4640c9fee9b>.

¹⁰⁴ Schmitz, *supra* note 103; Beioley, *supra* note 103

¹⁰⁵ Remus & Levy, *supra* note 83, at 550.

¹⁰⁶ See Marija Lazic, *Divisive Child Custody Statistics*, *LEGAL JOBS* (June 21, 2021) <https://legaljobs.io/blog/child-custody-statistics/> (finding that 51% of custody cases are decided in the mother’s favor, either by agreement, arbitral award, or judicial award).

¹⁰⁷ See Bell, *supra* note 47, at 118.

¹⁰⁸ See Kasap, *supra* note 9, at 225.

¹⁰⁹ Beioley, *supra* note 103.

¹¹⁰ Zeleznikow & Stranieri, *supra* note 17, at 200.

¹¹¹ Smith & Frazer, *supra* note 46, at 201–03.

¹¹² *Id.*

¹¹³ *Id.* at 203.

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While AI can be helpful in determining more straightforward issues, such as the equitable division of property and assets, issues such as child rearing, custody arrangements, allegations of abuse, etc., often pose an ill-fit for such programs due to those issues' highly individualized nature.¹¹⁴ This ill-fit is caused, in part, by the inability for AI data to be truly representative of the numerous differences presented by each individual dispute. Part of the allure of alternative dispute resolution is that it provides a forum relatively insulated from the rule of law, in that parties can accommodate individual interests and address unique needs into their resolution, without being constrained by the need for precedent or a muster on public policy.¹¹⁵ Facilitators have far-reaching latitude to apply precedent and the law in a way that not only meets the individualized needs and interests of the parties but also is subjectively fair to the parties.¹¹⁶ It is currently impossible to build an AI tool that adequately measures the fairness of a proposed judgment, aside from comparing the judgment in question to previous judgments to look for outliers, discriminatory patterns, procedural errors, and other violations of prevailing judicial norms.¹¹⁷

Research shows that an AI system used in conjunction with human expertise is superior to the use of AI alone.¹¹⁸ Accordingly, a more balanced alternative is the use of practitioner review to accompany all recommendations and/or decisions made by AI-based lawyering programs.¹¹⁹ Ideally, practitioners relying on AI programs to determine separation and/or custody arrangements would use such programs to supplement their own judicial experience only after an independent evaluation of the parties' respective conflicts and interests. This oversight, hereinafter referred to as a "human in the loop" system (HITL) can attempt to counterbalance biases in the data by acting as a system of safety checks—ensuring that public policy is not being violated and providing the opportunity for a sort of quasi-judicial review.¹²⁰ HITL systems are commonplace in the medical field, where they are often used to automatically classify skin lesions according to cancer risk.¹²¹ An automated system automatically checks and marks areas of concern and issues a preliminary diagnosis, which a human provider then verifies.¹²² HITL systems have been suggested for AI-based legal programs and should be involved throughout the design process as well as with back-end audits of the system, designed to periodically uncover and remedy biased data.¹²³ The individual designated as a system's HITL should be able to understand both the reasoning behind decisions made by the AI program and the factors underlying the program.¹²⁴ The HITL should also have the ability and authority to identify a natural person or legal entity

¹¹⁴ *Id.*; Remus & Levy, *supra* note 83, at 553.

¹¹⁵ See Kasap, *supra* note 9, at 212; see also Shepard, *supra* note 52, at 40.

¹¹⁶ See Kasap, *supra* note 9, at 212; see also Shepard, *supra* note 52, at 40.

¹¹⁷ Carlson, *supra* note 5, at 26.

¹¹⁸ Bhavik N. Patel et al., *Human-machine Partnership with Artificial Intelligence for Chest Radiograph Diagnosis*, 2:111 NPJ DIGIT. MED. 1 (2019), <https://www.nature.com/articles/s41746-019-0189-7.pdf>; see Whalen, *supra* note 70.

¹¹⁹ See Whalen, *supra* note 70.

¹²⁰ Huston & Fuentes-Slater, *supra* note 99.

¹²¹ Patel et al., *supra* note 118, at 1.

¹²² *Id.*

¹²³ Huston & Fuentes-Slater, *supra* note 99.

¹²⁴ *Id.*

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who would bear legal and/or fiscal liability should any transparency violations occur.¹²⁵ The use of AI without practitioner oversight presents the issues of turning judicial decisions into a black box of AI, where judicial review becomes difficult, if not impossible.¹²⁶

C. The Black Box of Liability

AI programs are generally incapable of giving reasons and explanations for either the why or the how of their decisions.¹²⁷ This presents a glaring problem for those concerned about accountability and the need for judicial review. According to researchers, this lack of transparency threatens a litany of consequences over time.¹²⁸ Practitioners who continually rely on software generated predictions when determining how to proceed with an issue may unwittingly influence the outcome of future cases, by virtue of any influence they have over judicial action.¹²⁹ Once a practitioner acts (or refrains from acting) based on the prediction, the subsequent data that is created and fed back into the system can influence the outcome of future predictions and future cases.¹³⁰

Called a “black box” for a reason, these AI programs build data in largely self-directed processes, shielded from the view of even those who coded them.¹³¹ Algorithms, rather than a judicial officer, determine how and what factors determine a particular outcome and produce predictions accordingly.¹³² These factors then become encoded into those prediction algorithms—including potentially discriminatory or otherwise problematic factors—all without anyone noticing the issue.¹³³ Once problematic factors are encoded, the algorithm will continue to apply them, perpetuating the discrimination.¹³⁴ For example, if a program discovers a correlation between a particular court’s decisions on custody and the gender of the party seeking custody, the program will then account for that correlation in predicting the success or failure of the case.¹³⁵ If that correlation then influences a practitioner’s actions, the correlation could increase—further encoding the problematic factor into the program.¹³⁶

¹²⁵ *Id.*

¹²⁶ Kasap, *supra* note 9, at 232 (explaining that a court can refuse an unreasoned award and remand to the arbitrator for clarification, whereas we do not know whether and how such remand and clarification can be achieved with an AI arbitrator); see Jenna Burrell, *How the Machine ‘Thinks’: Understanding Opacity in Machine Learning Algorithms*, 3 *BIG DATA & SOC.* 1 (2016), <https://journals.sagepub.com/doi/pdf/10.1177/2053951715622512>.

¹²⁷ Zeleznikow & Stranieri, *supra* note 17, at 185–86.

¹²⁸ See Kasap, *supra* note 9, at 229–30.

¹²⁹ Remus & Levy, *supra* note 83, at 550.

¹³⁰ *Id.*

¹³¹ See Kasap, *supra* note 9, at 230; Rich, *supra* note 126, at 886 (machine learning tends to create models that are so complex that they become black boxes, where even the original programmers of the algorithm have little idea exactly how or why the generated model creates accurate predictions).

¹³² Kasap, *supra* note 9, at 230.

¹³³ Cynthia Rudin & Joanna Radin, *Why Are We Using Black Box Models in AI When We Don’t Need To? A Lesson From an Explainable AI Competition*, 1(2) *HARV. DATA SCI. REV.* 1, 2 (2019).

¹³⁴ Remus & Levy, *supra* note 83, at 550.

¹³⁵ *Id.*

¹³⁶ *Id.*

D. AI Programs Risk Running Afoul of MRPC and Unauthorized Practice of Law Rules

The American Bar Association (ABA) is generally averse to the use of technology for the same reasons it is generally averse to the use of paraprofessionals—it “interferes with the lawyering profession” and presents its own set of ethical and legal issues.¹³⁷ While lawyers are bound by a code of ethics and subject to suspension or expulsion as punishment for a code violation, AI systems face no such boundaries or repercussions.¹³⁸ The use of AI-based lawyering also presents issues regarding the unauthorized practice of law.¹³⁹ The degree to which these programs run afoul of professional codes depends, to some extent, on the level of the program’s complexity. Some AI solutions only minimally replicate the role of lawyers, such as automated online document preparation services, while others, such as the proposed full service legal portal imagined by Alan Carlson¹⁴⁰, more closely do so.¹⁴¹ Avoiding any ethical violations using AI-based lawyering systems requires careful choices by both developers and paraprofessional users who lack the authority to practice law.¹⁴²

VI. CONCLUSION

AI programs, while helpful for providing judges and facilitators with a broader spectrum of remedies and a stronger foundation on which to better assist the parties, bring new risks and concerns for those on the other side of the bench. New technology is important for attorneys and facilitators to incorporate into their practices, but the concerns they present cannot be ignored. The perpetuation of systemic discrimination and the possibility that more advanced AI models may push the boundaries of ethical rules that keep human practitioners in line is the paramount concern. It is important for judges, facilitators, and participants to evaluate whether the use of AI programs and data analytics software for the resolution of family law matters removes bias from the process, improves the likelihood of a “fair” outcome, or introduces artificial bias by relying on outdated data and common law precedent.

Despite representing an incredible development in the accessibility of legal service, AI-based lawyering is not appropriate for all disputes. The artificial nature of AI-based online dispute resolution will eliminate many of the unique and inherently human aspects that make the ADR process successful in some situations. AI spares practitioners from the more emotional, need-based aspects of dispute resolution by applying historical data to factual information—selecting the statistically better solution and often ignoring the personal conflicts and individual interests of the parties. While this modality may work wonders to

¹³⁷ *Id.*

¹³⁸ See MODEL RULES OF PROF’L CONDUCT r. 8.4 (AM. BAR ASS’N 1983).

¹³⁹ Katherine L. W. Norton, *The Middle Ground: A Meaningful Balance Between the Benefits and Limitations of Artificial Intelligence to Assist with the Justice Gap*, 75 U. MIAMI L. REV. 190, 202 (2020); see Deborah L. Rhode & Lucy Buford Ricca, *Protecting the Profession or the Public? Rethinking Unauthorized-Practice Enforcement*, 82 FORDHAM L. REV. 2587, 2588 (2014); Benjamin H. Barton & Deborah L. Rhode, *Access To Justice and Routine Legal Services: New Technologies Meet Bar Regulators* (Stan. Pub. L. Working Paper 964 (2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3183738).

¹⁴⁰ Carlson, *supra* note 5, at 26.

¹⁴¹ Norton, *supra* note 139, at 202.

¹⁴² *Id.*

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expedite processes, it can take away from the ultimate goal of ADR—to find a resolution that meets the unique needs of both parties, while also imparting biases that HITL processes typically avoid. While there is potential for these systems themselves to act as a check on judicial bias, careful oversight is needed to ensure they do not inflict more harm than good.