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Foreword: Artificially Intelligent Innovation and Justice

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FOREWORD: ARTIFICIALLY INTELLIGENT INNOVATION AND JUSTICE

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Over the last two-and-a-half decades, Artificial Intelligence (AI) evolved from a rarely considered machine application that could beat a chess world champion[1] to a ubiquitous technology that individuals and entities commonly rely upon to complete day-to-day tasks.[2] Consumers regularly use smart home devices like the Amazon Echo to listen to music, monitor cooking time, control other devices in the home, such as lights and air quality, check the weather, maintain a calendar, and shop online, among other things. Every driver who purchased a car manufactured since the 1970s enjoys the benefits of some level of AI-assisted driving or mechanics. Cities employ AI to help manage traffic lights and reduce idle car time in order to reduce emissions.[3] The World Economic Forum hopes that AI can improve primary education for everyone.[4] Society sees echoes of AI nearly everywhere, and, as a result, few stop to question how it works or whether the benefits outweigh any potential harms.

The truth, however, is that few among the general public understand the technology underlying AI, and even fewer still recognize the potential risks that its ever-present use in society poses to core societal values and legal rights. At the most basic level, AI can be understood as "a set of techniques aimed at

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1. Isabella Hermann, *Artificial Intelligence in Fiction: Between Narratives and Metaphors*, 38 AI & Soc'y 319, 319 (2023) (noting that Deep Blue beat chess champ Gary Kasparov in 1996/1997, Alpha Go beat Go champion Lee Sedol in 2016, and Sophia the humanoid robot became a Saudi Arabian citizen in 2017).

2. Carla L. Reyes & Jeff Ward, *Digging Into Algorithms: Legal Ethics and Legal Access*, 21 Nev. L.J. 325, 332 (2020).

3. Dave Paresh, *Google's AI is Making Traffic Lights More Efficient and Less Annoying*, Wired (Oct. 18, 2023 7:00 AM), https://www.wired.com/story/googles-ai-traffic-lights-driving-annoying/.

4. Wendy Kopp & Bo Stjerne Thomsen, *How AI Can Accelerate Students' Holistic Development and Make Teaching More Fulfilling*, World Econ. Forum (May 1, 2023), https://www.weforum.org/agenda/2023/05/ai-accelerate-students-holistic-development-teaching-fulfilling/.

approximating some aspect of human or animal cognition using machines."[5] Beyond this type of general description, no commonly agreed-upon definition of AI exists.[6] For a long time, when people used the term AI, they held a mental model of machine learning.[7] With the introduction of Chat-GPT by OpenAI in 2022, however, many now intend to speak of "generative AI" when they use the term AI.[8] From a technical perspective, machine learning actually encompasses "a family of AI techniques that share some common characteristics," and it "is not one approach, but rather refers to a broad category of computer techniques that share these features . . . includ[ing] neural networks/ deep learning, naïve Bayes classifier, logistic regression, and random forests."[9] When people think of ChatGPT as the archetypal form of generative AI, they have large language models in mind. "Within the broader AI landscape, researchers most closely associate LLMs with the subfield known as 'natural language processing' (NLP)."[10] NLP is a machine learning technology which involves applying computational techniques to interpret, manipulate, and generate natural language text.[11] In other words, although large language models

5. Ryan Calo, *Artificial Intelligence Policy: A Primer and Roadmap*, 51 U.C. Davis L. Rev. 399, 404 (2017); *see also* Matthew U. Scherer, *Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies and Strategies*, 29 Harv. J.L. & Tech. 353, 362 ("'[A]rtificial intelligence' refers to machines that are capable of performing tasks that, if performed by a human should be said to require intelligence."); Ryan Abbott & Alex Sarch, *Punishing Artificial Intelligence: Legal Fiction or Science Fiction*, 53 U.C. Davis L. Rev. 323, 329 (2019) ("We use the term 'AI' to refer to a machine that is capable of completing tasks otherwise typically requiring human cognition.").

6. Reyes & Ward, *supra* note 2, at 332 (citing Scherer, *supra* note 3, at 359).

7. *Id.* at 332-33 (citing Amanda Levendowski, *How Copyright Law Can Fix Artificial Intelligence's Implicit Bias Problem*, 93 Wash. L. Rev. 579, 590 (2018) ("When journalists, researchers, and even engineers say 'AI,' they tend to be talking about machine learning, a field that blends mathematics, statistics, and computer science to create computer programs with the ability to improve through experience automatically.").

8. *See e.g.*, Maura R. Grossman, et. al., *The GPTJudge: Justice in a Generative AI World*, 23 Duke L. & Tech. Rev. (Oct. 2023).

9. Harry Surden, *Artificial Intelligence and Law: An Overview*, 35 Ga. St. U. L. Rev. 1305, 1311 (2019).

10. Harry Surden, *ChatGPT, AI Large Language Models, and Law*, 92 Fordham L. Rev. 1939, 1943 (2024).

11. *What is Natural Language Processing (NLP)?*, Amazon Web Svcs., https://aws.amazon.com/what-is/nlp/ (last visited Apr. 28, 2024); *see also* Yonathan A. Arbell & David A. Hoffman, *Generative Interpretation*, 99 N.Y.U. L. Rev. (forthcoming 2024) (noting that large language models use embedding, a form of machine learning).

and "generative AI" represent a breakthrough in the capabilities of AI available to consumers, they are based on known techniques, with known benefits and known problems. This AI symposium draws attention to the core issues affecting the intersection of AI and law, issues which remain in the era of generative AI. At the heart of these issues lies the need for legal frameworks to adequately balance the benefits and perils of emerging uses of AI.

Researchers, media, and corporations all proclaim the potential benefits of AI for society. Some commentators emphasize the value in reducing human error, automating repetitive tasks, improving efficiency, increasing human safety, and enabling faster decision-making.[12] For example, medical AI advances have improved doctor diagnostic capabilities, helping to catch disease earlier and recommend more effective and personalized treatments.[13] Many also warn, however, that in light of AI's opacity and inscrutability, society must remain vigilant for encroachment upon personal freedoms and fundamental rights. For example, the criminal justice system relies on AI in any number of ways,[14] without input from the communities most impacted by such uses,[15] leading to questions of socio-economic and racial bias.[16] Further, because AI relies on large quantities of data, privacy concerns regularly arise without the benefit of a well-fitting legal paradigm to address them.[17] Finally, commentators argue that, in a variety of important settings, the law does not yet have a liability and remedy regime in place to address harm when AI fails (and as software, it will inevitably fail).[18] Moreover, as excitement around "generative AI" generates new hype for the potential benefits of the technology, even

12. Rashi Maheshwari, *Advantages of Artificial Intelligence (AI) in 2024*, Forbes Advisor (Aug. 24, 2023), https://www.forbes.com/advisor/in/business/software/advantages-of-ai/.

13. W. Nicholson Price II & I. Glenn Cohen, *Locating Liability for Medical AI*, 73 DePaul L. Rev. 339, 343-44 (2024).

14. Sonia Katyal, *The Paradox of Source Code Secrecy*, 104 Cornell L. Rev. 1183, 1186 (2019).

15. Ngozi Okidegbe, *The Democratizing Potential of Algorithms?*, 53 Conn. L. Rev. 739 (2022).

16. Will Douglas Heaven, *Predictive Policing Algorithms are Racist. They Need to be Dismantled*, MIT Tech. Rev. (July 17, 2020), https://www.technologyreview.com/2020/07/17/1005396/predictive-policing-algorithms-racist-dismantled-machine-learning-bias-criminal-justice/.

17. Daniel J. Solove, *Artificial Intelligence and Privacy*, 77 Fla. L. Rev. (forthcoming 2025).

18. Price & Cohen, *supra* note 9, at 341; Bryan H. Choi, *AI Malpractice*, 73 DePaul L. Rev. 301 (2024); Mihailis Diamantis, *Vicarious Liability for AI*, 99 Indiana L.J. 317 (2023); Jason Bent, *Is Algorithmic Affirmative Action Legal?*, 108 Geo. L.J. 803 (2020); Bryan H. Choi, *Crashworthy Code*, 94 Wash. L. Rev. 39 (2019); Bryant Walker Smith, *Proximity-Driven Liability*, 102 Geo. L.J. 1777 (2014).

greater attention must be directed toward issues of data privacy, cybersecurity, innovation policy, and the impact of emerging AI techniques on any number of industries, including the legal industry.

Ultimately, then, even in the midst of an ever-magnifying hype cycle around AI generally, and generative AI in particular, a number of real and nuanced challenges to law and legal institutions remain evident. This symposium considers two such challenges: ensuring that the fabric of innovation is fused with ethical and responsible conduct, and how to train legal professionals for the inevitable deeper integration of AI into law.

Professor Nicole N. Morris' symposium article zooms out from specific legal questions around AI and urges law and the legal profession to consider its role in shaping the culture of innovation within which advancements in AI and other technologies sit. Using recent major innovation frauds from both the private and public sectors as case studies, Professor Morris argues that law and legal professionals should take a stronger role in providing the guardrails within which innovation occurs. Specifically, Professor Morris encourages shifting innovation culture by providing greater legal protections to whistleblowers, including attorney whistleblowers. In so doing, Professor Morris takes an existing debate in the literature and contextualizes it for the AI innovation sector.[19] Professor Morris also argues for greater oversight by federal grant making agencies, and for the creation of a new remedy when researchers commit innovation fraud. Professor Morris' contribution goes beyond these specific policy proscriptions. In light of the opaque and inscrutable nature of many of the technologies at the center of current innovation cycles, Professor Morris reminds law and society that transparency can be demanded at earlier stages of the innovation process, and that doing so may not only prevent fraud, but also help reduce the occurrence of downstream harms through the technology.

In order for law and the legal profession to adequately play the role of building ethical and responsible conduct frameworks for AI innovators along the lines that Professor Morris suggests, law and the legal profession must itself grapple with the profound changes it will experience as a result of advancements in AI technologies. In particular, Professor April G. Dawson argues that current innovation in AI will inevitably integrate with the legal profession more deeply, and considers how to ethically and responsibly train legal professionals to prepare for the changing landscape of law and legal institutions in the age of AI. In particular, Professor Dawson argues that legal professionals will eventually need to interact with AI throughout the technology lifecycle, including in design, development, deployment, and auditing of algorithmic adjudication systems. The first step in doing so, she argues, is to understand the technology at a rather nuanced level. Even as she offers a deep-dive into large language models as one step toward providing the needed education to the legal community, Professor Dawson's overall view of lawyers' role in using algorithmic

19. *See* Carliss N. Chatman, *Myth of the Attorney Whistleblower*, 72 SMU L. Rev. 669 (2019); Hannah Bloch-Wehba, *The Promise and Perils of Tech Whistleblowing*, 118 Nw. U. L. Rev. 1503 (2024).

adjudication systems adds new insights to a rich literature examining similar questions in different contexts.[20]

Ultimately, then, the articles in this symposium take up two key questions at the intersection of emerging AI models and law—the answers to which will help lay the foundation for exploring the many other issues that have arisen, and will continue to arise, at the intersection of AI and law.

20. *See, e.g.*, Reyes & Ward, *supra* note 2; Rebecca Crootof, Margot E. Kamiski, & W. Nicholson Price II, *Humans in the Loop*, 76 Vanderbilt L. Rev. 429 (2023); Charlotte Tschider, *Humans Outside the Loop*, 28 Lewis & Clark L. Rev. (forthcoming 2024).