Exponent®
Engineering & Scientific Consulting

Leah Kaplan, Ph.D.

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Professional Profile

Dr. Kaplan leverages her technical background in systems engineering and experience working in the realm of science and technology policy to offer a unique lens through which to approach clients' challenges. She specializes in the development, testing, failure analysis, performance evaluation, and deployment of emerging technologies including automated vehicles (AVs), advanced driver assistance systems (ADAS), and electric vehicles. Dr. Kaplan's educational and professional background, including experience conducting public and technical stakeholder engagement, provide her with the skillset necessary to effectively collaborate with industry leaders, government officials, and engineers to analyze and navigate complex sociotechnical issues.

Prior to joining Exponent, Dr. Kaplan received her Ph.D. in Systems Engineering from the George Washington University where she evaluated the system-level impacts of automated vehicles (AVs). Her research included consumer choice modeling to evaluate potential competition between transportation modes, economic modeling of emerging AV ride-hailing services, and analysis of the potential workforce development needs and impacts of AV services.

Within the policy realm, Dr. Kaplan has worked on Capitol Hill as part of the House Committee on Science, Space, and Technology and with the Arizona State University Consortium for Science, Policy & Outcomes (CSPO), a DC-based science policy think tank that conducted large-scale public deliberations on emerging science and technology issues. While at CSPO, she authored a paper on a new method for public deliberation that was later cited in a White House report. These experiences provided her with a thorough understanding of the policy and social dimensions that shape technology design and regulation.

Dr. Kaplan also has experience conducting interdisciplinary work with computer scientists on the design and deployment of trustworthy artificial intelligence (AI) systems, including evaluations of AI applications in the domains of healthcare, emergency response, and transportation. This work included examining how consumers and employees engage with artificial intelligence systems. She has also applied machine learning methods to analyze both qualitative and quantitative data.

Academic Credentials & Professional Honors

Ph.D., Systems Engineering, George Washington University, 2025

B.S., Chemical Engineering, University of Arizona, 2018

Best paper award at the 6th Bridging Transportation Researchers Conference, 2024

Design & Technology Fellow, Fellowships at Auschwitz for the Study of Professional Ethics, 2023

National Science Foundation Co-Design of Trustworthy AI Systems Research Traineeship, 2022

National Science Foundation Graduate Research Fellow (NSF GRFP), Recipient 2020

Professional Affiliations

Trustworthy AI in Law and Society, Affiliate, since 2024

Publications

Kaplan, L., Nurullaeva, L. & Helveston, J.P., (2024) Modeling the Hidden Labor Costs of Autonomous Vehicle Taxi Services. Transport Policy. https://doi.org/10.1016/j.tranpol.2024.10.010

Kaplan, L. & Helveston, J.P., (2024) Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S. Transportation Research Record. https://doi.org/10.1177/03611981231208976

Kaplan, L., Farooque, M., Sarewitz, D., & Tomblin, D. (2023). Designing Participatory Technology Assessments. In The Rightful Place of Science: New Tools for Science Policy (Vol II) (pp. 107-154). Consortium for Science, Policy & Outcomes.

Kaplan, L., Rupprecht, S., Grosso, M., Thomopoulos, N., Backhaus, W., Raposo, M. A., … & Franco, D. (2023). Ensuring Strong Public Support for Automation in the Planning Process: From Engagement to Co-creation. In Automated Road Transportation Symposium (pp. 167-183). Springer, Cham. https://link.springer.com/book/10.1007/978-3-031-11112-9#page=169

Kaplan, L., Farooque, M., Sarewitz, D., & Tomblin, D. (2021). Designing Participatory Technology Assessments: A Reflexive Method for Advancing the Public Role in Science Policy Decision-making. Technological Forecasting and Social Change, 171, 120974. https://doi.org/10.1016/j.techfore.2021.120974 (Cited in White House Report)

Nelson, J. P., Kaplan, L., & Tomblin, D. (2020). Assessing solar geoengineering research funders: Insights from two US public deliberations. The Anthropocene Review, 2053019620964845. https://doi.org/10.1177/2053019620964845

Hernandez, E., MacNamee, S. E., Kaplan, L. R., Lance, K., Garcia-Verdugo, H. D., Farhadi, D. S., Deer, C., Lee, S. W., & Oland, L. A. (2020). The astrocyte network in the ventral nerve cord neuropil of the Drosophila third-instar larva. Journal of Comparative Neurology, 528(10), 1683–1703. https://doi.org/10.1002/cne.24852

Presentations

Kaplan, L., Nurullaeva, L., & Helveston, J.P. Modeling the Operational and Labor Costs of Autonomous Robotaxi Services, Bridging Transportation Researchers Conference. 2024.

Kaplan, L., Szajnfarber, Z., & Helveston, J.P., Mapping the AI-Enabled Transformation of Labor in Autonomous Taxi Services, Technology, Data, and Policy Conference. 2024.

Kaplan, L. AI Behind the Wheel: Work, Economics, and Preferences in the Era of Autonomous Vehicles, Northeastern Association of Graduate Schools Regional 3 Minute Thesis Competition. 2024.

Kaplan, L. Building LLMs for Alignment and Trustworthiness. GW Coders Meeting, George Washington University. 2024.

Kaplan, L., Szajnfarber, Z., & Helveston, J.P., Shifting, Not Shrinking? Exploring Labor Roles in Traditional and Automated Taxi Services, Institute of Industrial and Systems Engineering Annual Meeting. 2023.

Kaplan, L. & Helveston, J.P., Undercutting Transit? Exploring potential competition between autonomous vehicles and public transportation in the U.S. Transportation Research Board Annual Meeting. 2023.

Kaplan, L., Benefits for Whom? Considering Equity as a Design Goal for Autonomous Vehicle Development, Society for Philosophy and Technology Conference. 2021.

Kaplan, L., John Nelson, and David Tomblin, Informing the Governance of Geoengineering Research Through Public Deliberations, Dec. 2019; American Geophysical Union Annual Conference

Kaplan, L., Mahmud Farooque, Kimberly Quach, and Jason Lloyd, Boundary Spanning at the Science Policy Interface: Challenges and Opportunities, Dec. 2019; American Geophysical Union Annual Conference

Kaplan, L., John Nelson, Our Driverless Futures – Informing Autonomous Vehicle Design and Deployment through Public Deliberation. Oct. 2019. Phoenix Mobile and Emerging Tech Festival

Kaplan, L., John Nelson, US Public Preferences in Geoengineering Funding and Governance, Oct. 2019. The Science, Health and Engineering Policy and Diplomacy; Sustainable Development for the Americas Conference

Tomblin, D., Leah Kaplan, JP Nelson, and Mahmud Farooque, "Our Driverless Futures:" Informing Autonomous Vehicle Systems Design through Participatory Technology Assessment. Oct. 2019. University of Maryland Do Good Robots Symposium

Farooque, M. and Leah Kaplan, Innovating with the Public – One Deliberation at a Time, Aug. 2019. Symposium: Interrogating Innovation, Nanyang Technological University, Singapore.

Sarewitz, D., Leah Kaplan and Mahmud Farooque, How can engaging public deliberations build bridges across the S&T enterprise?, June. 2019. National Science and Technology Council "Building Bridges Across the S&T Enterprise" Conference (Poster)

Kaplan, L., Engaging Stakeholders in Future Change. Jun. 2019. The Foresight Sandbox, Workshop on Strategic Foresight

Kaplan, L., and David Tomblin, Why Public Engagement with Science and Technology. Mar. 2019. Workshop with American Association for the Advancement of Science (AAAS) Fellows

Tomblin, D., John Nelson, and Leah R. Kaplan, Solar Radiation Management Forum Results Workshop. Dec. 2019. Workshop hosted by Arizona State University

Kaplan, L., Hassan A. Vafai, and Kevin E. Lansey. Sowing the seeds of understanding and interest: An example of university-sponsored incubation and collaboration for science diplomacy. Nov. 2018. Science Policy Symposium, Science and Education Policy Association

Peer Reviews

Transactions on Computer-Human Interaction, Agricultural Systems