Utilizing Artificial Intelligence in Digital Out-of-Home Advertising

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Abstract:

Digital Out-of-Home advertising has evolved in terms of form, content, and the ability to reach the target audience thanks to recent technical advancements. On the other hand of traditional Out-of-Home advertising, AI-based advertising has enabled the most specific audience targeting and marketing connection with customers depending on the latest technologies. Artificial intelligence is dependent on some technologies such as big data, internet of things IOT, facial recognition, temperature recognition, vehicle and object recognition and real-time audience targeting. All of these technologies and more have caused a revolution in the field of Out-of-Home advertising. This research aims to highlight the latest technologies used by AI, that could be applied in the field of advertising. Impacts of these applications, in addition to examples of already applied AI-powered advertisements are introduced. Some extra new ideas for AI-based advertisements are also proposed by the research.

Keywords:

Artificial intelligence- Digital Out- of- home Advertising- Big data- Internet of Things IoT

References:

- 1- Appel, Gil, Lauren Grewal, Rhonda Hadi, and Andrew T. Stephen. 2020. "The Future of Social Media in Marketing." Journal of the Academy of Marketing Science 48(1): 79–95. http://link.springer.com/10.1007/s11747-019-00695-1.
- 2- Davenport, Thomas, Abhijit Guha, Dhruv Grewal, and Timna Bressgott. 2020. "How Artificial Intelligence Will Change the Future of Marketing." Journal of the Academy of Marketing Science 48(1): 24–42.
- 3- Dawson, Dan. 2020. "AI Applications for Digital out of Home Advertising." august10. https://www.clickz.com/ai-applications-for-digital-out-of-home-advertising/262467/ (May 5, 2023).
- 4- Dwivedi, Yogesh K. et al. 2021. "Setting the Future of Digital and Social Media Marketing Research: Perspectives and Research Propositions." International Journal of Information Management 59: 102168. https://linkinghub.elsevier.com/retrieve/pii/S0268401220308082.
- 5- Ehab Khalefa. 2020. Artificial Intelligence: The Future of Human Life in Light of Technological Developments. 1st ed. General Book Authority.
- 6- ESZTER KOBZA. 2022. "How AI and IoT Are Changing the Landscape of Digital Out-of-Home (DOOH) Advertising." SEPTEMBER 16. https://www.soracom.io/blog/digital-ooh-advertising/ (May 1, 2023).
- 7- Gurumoorthy, P. 2015. "A Study About Out Of Home Advertising." International Journal on eManagement 1: 22–28.
- 8- Huang, Jingmin et al. 2022. "DVM-CAR: A Large-Scale Automotive Dataset for Visual Marketing Research and Applications." In 2022 IEEE International Conference on Big Data (Big Data), IEEE, 4140–47. https://ieeexplore.ieee.org/document/10020634/.
- 9- Kietzmann, Jan, Jeannette Paschen, and Emily Treen. 2018. "Artificial Intelligence in Advertising." Journal of Advertising Research 58(3): 263–67. http://www.journalofadvertisingresearch.com/lookup/doi/10.2501/JAR-2018-035.
- 10- Lai, Zhenli. 2021. "Research on Advertising Core Business Reformation Driven by Artificial Intelligence." Journal of Physics: Conference Series 1757(1): 012018. https://iopscience.iop.org/article/10.1088/1742-6596/1757/1/012018.
- 11- Longgrear, Judah. "How Artificial Intelligence Is Transforming Out-Of-Home Advertising For Small Businesses." Forbes Technology Council. https://www.forbes.com/sites/forbestechcouncil/2022/11/03/how-artificial-intelligence-is-transforming-out-of-home-advertising-for-small-businesses/?sh=3cbe80e4cd21 (May 5, 2023).
- 12- Madakam, Somayya, R. Ramaswamy, and Siddharth Tripathi. 2015. "Internet of Things (IoT): A Literature Review." Journal of Computer and Communications 03(05): 164–73. http://www.scirp.org/journal/doi.aspx?DOI=10.4236/jcc.2015.35021.
- 13- Mršić, Leo. 2023. "Impact of Artificial Intelligence on DOOH Advertising: Message-Persuasion Level Enhancement Using Illusion Board and Personalized Insights." In , 142–51. https://link.springer.com/10.1007/978-3-031-19958-5_14.
- 14- Rodgers, Shelly. 2021. "Themed Issue Introduction: Promises and Perils of Artificial Intelligence and Advertising." Journal of Advertising 50(1): 1–10.

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- https://www.tandfonline.com/doi/full/10.1080/00913367.2020.1868233.
- 15- Salim, Nancy. 2012. "What's All the Buzz Around 'Big Data?": Meet Dr. Aditya Vailaya [The Good, the Bad, and the Ugly: Engineering FACTS]." IEEE Women in Engineering Magazine 6(2): 24–31. http://ieeexplore.ieee.org/document/6353277/.
- 16- Sankaranarayanan, A.C., A. Veeraraghavan, and R. Chellappa. 2008. "Object Detection, Tracking and Recognition for Multiple Smart Cameras." Proceedings of the IEEE 96(10): 1606–24. http://ieeexplore.ieee.org/document/4653062/.
- 17- Shah, Neil et al. 2020. "Research Trends on the Usage of Machine Learning and Artificial Intelligence in Advertising." Augmented Human Research 5(1): 19. http://link.springer.com/10.1007/s41133-020-00038-8.

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