



ROADMAP ON AI TECHNOLOGIES & APPLICATIONS FOR THE MEDIA INDUSTRY

SECTION: “ROADMAP STRUCTURE”



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Roadmap structure

The web version of the AI4Media Roadmap on AI technologies & applications for the media industry is structured as follows:

- **Introduction** offers an introduction to the Roadmap, discussing what is AI, why we focus on AI for the media industry, what is the methodology adopted for the development of this Roadmap, and the topics covered by the Roadmap.
- **Overview of existing AI roadmaps, surveys and review papers** presents the main findings and insights from a selection of roadmaps, surveys, review papers and opinion articles focusing on the trends, benefits, and challenges of the use of AI, aiming to provide a clear picture about the most transformative applications of AI in the media and entertainment industry but also of the most important current and future AI research trends that hold the potential for significant impact across the media industry value chain.
- **AI4Media survey on AI technologies & applications for the media** summarises the results of the analysis of a large-scale online survey aiming to collect the opinions of the AI research community and media industry professionals with regard to the benefits, risks, technological trends, challenges and ethics of AI use in the media industry.
- **AI research & technologies: A glance into the future** analyses selected AI technologies, including white papers for reinforcement learning, evolutionary learning, learning with scarce data, transformers, causal AI, AI at the edge, bioinspired learning and quantum computing for AI learning, aiming to offer a clear overview of the current status of each technology, the drivers and challenges for its development and adoption, and future trends and goals.
- **AI multimedia applications: A glance into the future** analyses selected AI applications for multimedia analysis, including white papers for multimodal knowledge representation and retrieval, media summarisation, automatic content creation, affective analysis, NLP applications and content moderation, aiming to offer a clear overview of the current status of each technology, the drivers and challenges for its development and adoption, and future trends and goals.
- **Trustworthy AI: Future trends for robust, interpretable, privacy-preserving and fair AI** focuses on four aspects of trustworthy AI (robustness, explainability, fairness and privacy), including relevant white papers that examine the current status, applications, challenges, and future trends for trustworthy AI for the media industry.
- **AI data, benchmarks and open repositories: Towards AI democratization** focuses on AI datasets and benchmark competitions, including white papers that discuss current status, research challenges and future outlook, while also providing insights on the ethical and legal aspects that relate to this domain. It also discusses issues related to AI



democratisation, including a white paper focusing on open repositories for AI algorithms and data as well as on the topic of integrated intelligence.

- **AI applications & solutions for the media industry: Imagining the future of next-gen media** focuses on the deployment of AI on different media industry sectors, including white papers discussing AI for news/journalism, social media, film/TV, games, music and publishing. It also explores the use of AI to address critical global phenomena such as disinformation, to enhance online political debate, and to help the study of media itself in the form of AI-enabled social science tools.
- **Challenges, risks, and regulation frameworks for AI for the media industry** examines ethical, societal, environmental and economic risks and concerns stemming from the adoption of AI in the media industry, including bias and discrimination, media (in)dependence, inequality in access, privacy, transparency, accountability, liability, labour displacement, misinformation as an institutional threat, and environmental impact. In addition, it provides a brief overview of existing EU policy and legal initiatives and their impact on future AI research for the media industry.
- **Forces shaping the future of AI for the media industry** discusses the forces that could shape the future of the use of AI in the media sector, focusing on legislation/regulation, the pandemic and its impact, and climate crisis.





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