AIJJ
Artificial Intelligence Journalism Journal

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# AIJJ
Artificial Intelligence Journalism Journal

# HOW 4IR WILL SHAPE THE FUTURE OF THE MEDIA & ENTERTAINMENT INDUSTRY

- 7G Journalism and Beyond the Media of Metaverse
- The Need of AI in Journalism Academic Programs
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Editor-in-Chief: Dr. Mohamed Abdulzaher Senior Associate Editors: Prof. Eunika Mercier-Laurent
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# AIJJ

## ARTIFICIAL INTELLIGENCE JOURNALISM JOURNAL

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FOR RESEARCH AND FORECASTING (AIJRF)

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## About AIJJ

**AIJJ** is a Quarterly Journal published by Artificial Intelligence Journalism for Research and Forecasting (AIJRF). **AIJJ** a peer-reviewed, double-blind, and an "open access" academic journal focusing broadly on Artificial Intelligence Journalism, and the Fourth and the Fifth Industrial Revolutions' technologies in media.

Artificial Intelligence Journalism Journal (**AIJJ**) is focusing on searching and forecasting new thoughts and studies on the Fourth and Fifth Industrial Revolutions and artificial intelligence technologies and its impacts on the Media and Entertainment sector.

**AIJJ** journal aims to raise the awareness of the Artificial intelligence Journalism through the publication of quality research, with an emphasis on new technologies and solutions in new fields such as:

Automation content, AI and detecting fake content, Robotization of Marketing, Media of Metaverse, big data analytics, 7G Journalism, Blockchained-News, Covidization of Media Industry, Dynamic Human Skills (DHS), Artificial Intelligence Journalism and professional code of ethics, Augmented Reality & Virtual Reality (VR) content, Intelligence-Integrated Public Relations, Cybersecurity in Media & Entertainment Industry and future of the intelligent government services and content.

**AIJJ** journal is interdisciplinary and publishes both theoretical and empirical work in Artificial Intelligence Journalism, and Fourth and Fifth Industrial Revolutions' technologies.

**AIJJ** welcomes theoretical and empirical research studies in Artificial Intelligence Journalism and the new media era.

## Aims and Scope

**AIJJ** is providing a scientific content for practical applications and Academic theoretical advances of the Fourth Industrial Revolution, Fifth Industrial Revolution and Artificial Intelligence (AI) in the Media & Entertainment Industry, Education, and Future of Cities, and related disciplines including (but not restricted to):

- Artificial Intelligence Journalism.
- Fourth and the Fifth Industrial

Revolutions' technologies in media.

- Artificial Intelligence and Media & Entertainment Industry.
- Artificial Intelligence and Future of Education.
- AI and Intelligent Government Services.
- Metaverse and New Media Content (Media of Metaverse).
- Fourth Industrial Revolution and Dynamic Human Skills (DHS).
- Cybersecurity in Media & Entertainment.

## Key Words

*Artificial Intelligence Journalism; AI Journalism; 7G Journalism; Blockchained-News; Covidization of Media Industry; Dynamic Human Skills (DHS), Artificial Intelligence Journalism and Professional Code of Ethics; AI Ethics; Augmented Reality; Virtual Reality; Intelligence-Integrated Communications; Cybersecurity in Media & Entertainment; AI and Detecting Fake Content; Robotization of Marketing; Media of Metaverse; Big Data Analytics; Machine Learning; Machine Intelligence; Deep Learning; Data Mining; Big Data; AI in Education, AI and Intelligent Government Services; Artificial Intelligence and Future cities; Fourth Industrial Revolution; Fifth Industrial Revolution.*

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Artificial Intelligence Journalism for Research and Forecasting (AIJRF) think tank is a global leading organization in researching, forecasting, and shaping the future of Artificial Intelligence and human and the Fourth and Fifth Industrial Revelations.

AIJRF has the advanced skills in training, teaching, searching, and forecasting through its advisory board, plus three skilled teams, which are academic, editorial, and media team, in cooperation with various research institutions and universities, and specialized groups of academics and researchers in US, Euro, Asia, and Medial East. They speak and edit in five different languages: Arabic, English, French, Italian and Spanish.

AIJRF manages and issues" Artificial Intelligence Journalism Journal (**AIJJ**), the first AI

Journalism academic journal in both Arabic and English. Artificial Intelligence Journalism for Research and Forecasting (AIJRF), manages and supervises the Artificial Intelligence Journalism World Forum (AIJWF), the first global platform includes academics, media professionals and the specialists of artificial intelligence technologies, from educational institutions, universities, and the media.

AIJRF also manages and supervises the Artificial Intelligence Journalism World Forum (AIJWF), the first global platform to bring together academics, media professionals and specialists in AI technologies from educational institutions, universities and the media.

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**Submission Guidelines for Abstracts:**

1. The abstract should be written in English.
2. Exceeding the word limit for the submitted abstract should not be more than 500 words.
3. The summary must show the full working plan for the study.
4. Be written in either UK or US English.
5. Contain a title page.
6. Please share a short bio.
7. Please, send the abstract directly to:

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8. All submissions should be related to the general theme of the new issue, which will be announced in the "Call for Papers" every quarter.
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10. On average the journal returns a decision on a peer-reviewed paper in 15 days.

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Researchers and authors who feel they have grounds to appeal a rejection decision should send a rebuttal email to the editorial team (academics@aijournalism.net), detailing the reasons for the appeal. Rebuttals will be considered by the Editor-in-Chief, often in consultation with the Editorial Board Member who handled the paper. Decisions on appeals are final.

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1. The submitted research should not be published in any journals or online portals, not a part of a Master's or a PHD proposal.
2. It should include forecasting and academic ideas and outputs.

3. Research will be reviewed by 3 professors, to obtain the final academic approval, before publishing on the **AIJJ**.

- **Final Paper Submission Format**

1. Research must be presented in a Word file.
2. All submissions should follow the journal guidelines for word count, page margins and line numbering, where the total research words should not be less than 3,000 words and not more than 6,000 words excluding spaces, title, names of the author and references.
3. Use 12-point Times New Roman for the main text and smaller fonts may be used for figure captions, and 14 for headlines.
4. The width of each line should not exceed 17.5 cm or 7.0 inch.
5. Start the first line leaving a space of 2.5 cm or 1.0 inch on the upper side.
6. The Title, Author's Names, and Affiliations should all be centered.
7. Insert one blank line between the Affiliations and the main text.
8. Main text should be fully justified with single spacing.
9. Use bold face with bigger fonts for the Title but not for Authors, Affiliations, and the main text.
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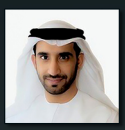

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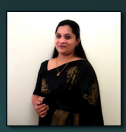

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# The Need of AI in Journalism academic Programs

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Higher Colleges of Technology

## Abstract

As the world embark on the Fourth Industrial Revolution, and witness new developments in technology, especially in artificial intelligence (AI), it is important that higher education institutions, appreciate that jobs will change dramatically in nature; students and workers will need to adapt, and higher education will need to be able to offer students the skill set they need to enter and grow in the work force of the future. While the great majority of academic programs in journalism today appear to focus more on theoretical and practical aspects of journalism such as news literacy, Introduction to digital journalism, journalistic reporting and writing, and global issues in journalism, industry leaders see AI already as a significant part of the future of journalism. AI has the potential for profound influence on how journalism is made and consumed. Based on employment projections for the next 5-10 years, and the strategic direction of the United Arab Emirates (UAE) government, higher education, and Industry needs, this paper presents a model for an undergraduate academic degree in Journalism with a specialization in AI. The proposed degree is the first of its kind, and is structured to introduce students with the skills, competencies, and the technologies needed in the future journalism market.


## Introduction

While our digital world is expanding every day, journalism is adapting to new digital forms and shapes as well[1]. Data sources are becoming more diverse, and the information we can draw from those sources are far deeper, and more interesting. With advanced technologies, Journalism can extend its abilities to read thousands of documents, use text sources, digital images, audio, and video files and data types. These changes are particularly important when we consider the skills and competencies of journalists.

As we embark on the Fourth Industrial Revolution (4IR), and witness new developments in technology, such genetics, artificial intelligence, robotics, to name but a few, it is important that HEI acknowledge and prepare for the consequent changes, and potential opportunities, and challenges in industry and the job market. In addition, technological

changes, whether socio-economic, geopolitical and/or demographic will have an impact on industry needs, the job market, and subsequently how academic degrees should look like [2].

The FIR is not about the mere improvement in productivity using technology, it is about the pace and scale of change. In the past, computerization, and automation replaced only routine and repetitive tasks. Now, technology is being used in jobs that require pattern recognition and other non-routine cognitive tasks.

Some industries will have to adjust; while others will undergo a fundamental transformation. Some jobs are likely to disappear, while others will change in nature. This change is not only concerned with fresh graduates, but also with continuous professional development and lifelong learning. The bottom line is that students, academic staff and HEI leadership will need to engage in a serious transformative journey to be able to offer the society with working forces ready for the foreseeable future. Hence, incorporating those required skills in the learning experience of students is warranted. Inevitably, tomorrow's school and college-graduates will be those designing and filling job roles that are yet to be created. The employment of news analysts, reporters, and journalists is projected to grow 6 percent from 2020 to 2030, about as fast as the average for all occupations [3],[4].

About 5,400 openings for news analysts, reporters, and journalists are projected each year. Many of which to replace workers who transfer to different occupations or exit the labor force. The US labor bureau forecasts that declining advertising revenue is expected to impact the long-term demand for traditional workers. Traditional journalism is expected to continue to decline over the decade. Consumers are increasingly publishing content online and on mobile devices. As a result, traditional forms of revenue are likely to change as well [5].

Declining revenue will force news organizations to downsize and employ fewer journalists. Increasing demand for online news may offset some of the downsizing. However, because online and mobile ad revenue is typically less than print revenue, the growth in digital advertising may not offset the decline in print advertising, circulation, and readership [6]. News organizations

also continue to consolidate and increasingly share resources, staff, and content with other media outlets [7]. For example, reporters working for a media outlet may gather and report news that is published in multiple newspapers owned by the same parent company [8]. As consolidations, mergers, and news sharing continue, the demand for journalists may decrease. However, in some instances, consolidation helps limit the loss of jobs. Mergers may allow financially troubled newspapers, radio stations, and television stations to keep staff because of increased funding and resources from the larger organization.

The literature and case studies reported in the use of AI in Journalism appear to be supportive for the most part [9]. In his 2019 book "the 4IR and Media Restructuring", Abdulzher states that "AI Journalism complements the development of the media industry since the era of the first industrial revolution". He further states that "Artificial Intelligence Journalism will create a new revolution in the media industry, where there are no geographic or legal borders, no restrictions imposed by governments on the freedom of News broadcasting and to access to information" [10]. The 2017 study by Columbia Journalism School present AI as a combination of tools that "can help journalists tell new kinds of stories that were previously too resource-impractical or technically out of reach". AI is expected to enhance, rather than replace, journalists' work. The intersection of AI and data offers new opportunities for consumers' engagement, and news feed personalization. At the same token, the study acknowledges a knowledge gap and communication gap between technologists designing AI and journalists using it; and potential challenges with this comes a number of challenges, including ethical ones [11]. The literature and case studies recommend the investment in training editors and reporters in AI. As AI tools enter newsrooms, journalists need to understand how to use new resources for storytelling—not only ethically, but also efficiently [12]. Other recommendations include the use of existing AI tools, like chatbots as opportunities for thinking about how to values and standards to new journalism technology [13]. The recommendation also include partnerships with academic institutions to align the curriculum, and advance the skills

of students in this area. This paper takes an exploratory look toward the recommendation of aligning journalism academic programs, and introducing the needed skills for AI in journalism industry [14].

While Higher Education Institutions' (HEI) strategic plan naturally focuses on corner stones, such as academic program rigor, quality, students, faculty, research and scholarly activities, community engagement, etc. [15] More and more HEI today pay special attention to the dynamics of the external social environment, in particular trends in the international economy, which are likely to have an impact on the university in the near future, especially:

- The dramatic changes in the job market.
- The continuous and rapid evolution of information technology.
- The need for life-long skills to equip students to adapt to a changing competitive working environment.

While the great majority of academic programs in journalism today appear to focus more on theoretical and practical aspects of journalism such as news literacy, digital journalism, journalistic reporting and writing, and global issues in journalism. Industry leaders already see AI as a significant role player in the future of journalism [16]. AI has the potential for great influence on how journalism is made and consumed. Based on employment projections for the next 5-10 years, and the strategic direction of the UAE government, higher education, and Industry needs, this paper suggest a model for an undergraduate academic degree in journalism with different approaches to embed AI within the curriculum. The proposed degree is the first of its kind, and is structured to introduce students with the skills, competencies, and the technological capacity and mastery needed in the future journalism market.

## Methodology

The increasing utilization on AI technologies in journalism highlights the importance of this paper. This paper is based on narrative review to provide an overview of journalism academic degree AI needs. This paper is based on a number of key resources from the literature, industry reports, and HEI strategic plans, including

studies that provide a view of future demand for jobs and skills from different perspectives, including, the result of a study commissioned by the UAE Ministry of Human Resources, "Marsad to assess the demand and supply in the UAE labor market"; A study carried out by the British Council, "Future Skills Supporting the UAE Future Workforce"; A report prepared by the Abu Dhabi Suitability Week, "ADSW Future Skills 2030 [17]. World Economic Forum Reports, World Development Report 2019 [6] and the study conducted by Charlie Beckett in 2019, examining 71 news organizations in 32 different countries regarding AI and associated technologies [18]. A wide range of journalists working with AI answered questions about their understanding of the concepts of AI, how it was used in their newsrooms, and their views on the wider potential and risks for the news industry. The Author is an academic veteran, leading the largest higher education institution in the UAE. The literature in data journalism and adaptation to AI provides a solid foundation that could be used in building and designing new academic programs. Diakopoulos, 2013, 2014;Hamilton & Turner, 2009; Howard, 2014; Fink & Anderson, 2014; Lewis & Westlund, 2015; Parasie, 2015; and Houston, 2015 are good references for how social science methods were applied to journalism. Data and computational journalism have also been discussed in the literature by Coddington, 2015; Flew, Spurgeon, and Heravi, 2017). Broussard, 2014 discusses how AI systems can be used for investigative journalism. Based on the above, this paper examines the structure of a number of undergraduate academic programs in journalism, and suggests a rather introduction or discussion not a manual for implementation.

## Industry trend for the next five years

A 2019 World Economic Forum report shows the main drivers for change in the media industry as mobile, internet, and cloud technology; processing power, and big data; are changing nature of work. Notice that technology related drivers account for the majority of responses. Figure 1 shows drivers of change in the media industry. Figure 2 provides a projection of the work disruption within the media industry in the next 5-10 years[6]. The World Economic Forum 2020

future of jobs report key findings indicate that the pace of technology adoption is expected to remain and may even accelerate in some areas; the report also advocate that automation, in tandem with the COVID-19 will continue to create 'double-disruption' to businesses; skills gaps will continue to be high as in-demand skills across jobs change in the next five years; the future of work has already been shaped for the majority of the online white-collar workforce; Online learning and training is on the rise; the window of opportunity to reskill and upskill has become shorter [4]

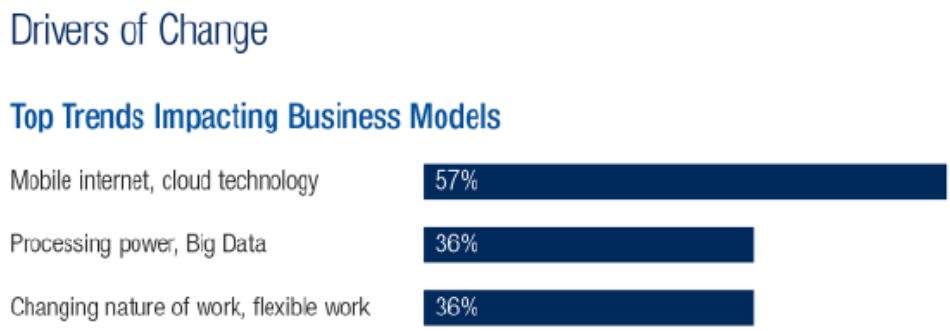


*Figure 1: Drivers of Change in Media Industry[32]*

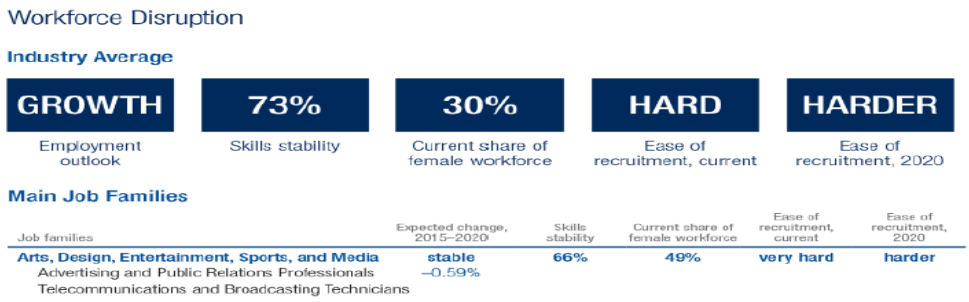


*Figure 2: Workforce Disruption in Media Industry[32]*

| Increasing demand | | Decreasing demand | |
|---|---|---|---|
| 1 | Data Analysts and Scientists | 1 | Data Entry Clerks |
| 2 | AI and Machine Learning Specialists | 2 | Administrative and Executive Secretaries |
| 3 | Big Data Specialists | 3 | Accounting, Bookkeeping and Payroll Clerks |
| 4 | Digital Marketing and Strategy Specialists | 4 | Accountants and Auditors |
| 5 | Process Automation Specialists | 5 | Assembly and Factory Workers |
| 6 | Business Development Professionals | 6 | Business Services and Administration Managers |
| 7 | Digital Transformation Specialists | 7 | Client Information and Customer Service Workers |
| 8 | Information Security Analysts | 8 | General and Operations Managers |
| 9 | Software and Applications Developers | 9 | Mechanics and Machinery Repairers |
| 10 | Internet of Things Specialists | 10 | Material-Recording and Stock-Keeping Clerks |
| 11 | Project Managers | 11 | Financial Analysts |
| 12 | Business Services and Administration Managers | 12 | Postal Service Clerks |
| 13 | Database and Network Professionals | 13 | Sales Rep., Wholesale and Manuf., Tech. and Sci.Products |
| 14 | Robotics Engineers | 14 | Relationship Managers |
| 15 | Strategic Advisors | 15 | Bank Tellers and Related Clerks |
| 16 | Management and Organization Analysts | 16 | Door-To-Door Sales, News and Street Vendors |
| 17 | FinTech Engineers | 17 | Electronics and Telecoms Installers and Repairers |
| 18 | Mechanics and Machinery Repairers | 18 | Human Resources Specialists |
| 19 | Organizational Development Specialists | 19 | Training and Development Specialists |
| 20 | Risk Management Specialists | 20 | Construction Laborers |

Source
Future of Jobs Survey 2020, World Economic Forum.

***Figure 3: Increasi\ng and Decreasing jobs before 2025***[32]

Extrapolating from the figures shared in the Future of Jobs Survey 2020, it is expected that by 2025, redundant roles will decline from 15.4% to 9%, and emerging professions will grow from 7.8% to 13.5%. The report estimates that that by 2025, 85 million jobs may be displaced by advanced IT technologies, while 97 million new roles will be created in adaptation to the new markets, across the 15 industries and 26 economies covered by the report. Figure 3 shows top 20 jobs, increasing and decreasing based before 2025, based on the survey.

Industries and researchers expect the trends in the next 5-10 years to include significant increases in automation, and digitization, across different industries; significant job disruption because of the requirement for new talents and skills; the gap that separates human's intellect, from machines and algorithms intellect will narrow [19] the emergence of new tasks which require new skills and competencies will increase; as the rates of fewer 'jobs for life' will increase; the need for all workers to become 'lifelong learners' is likely to dramatically increase; the number of persons who will be free lancers and mobile is likely to spike [20].

In journalism, consolidation and mergers in the journalism industry, the decreases in advertising revenue, and the increased adoption of technology are expected to result in more efficient allocation of resources and assignments, subsequently limiting the number of new hires. Journalists with new media skills and specialized knowledge are more likely to be employed. Not to mention that the COVID-19 pandemic and related global recession of 2020 have created a highly uncertain outlook for the labor market [21].

Despite the dramatic changes due to the emergence of AI in Journalism, there are professional, and ethical challenges that need be addressed [22]. For example, under the category of professional challenges, an AI system may lead to a greater bias [23],[24]; an AI system may lack control and oversight. Similarly, on the ethical side, an AI system may suffer transparency, data quality, fact-checking, and fairness challenges.

## AI and Journalism Industry

In general, and at the most basic definition, AI refers to a branch of computer science focused on simulating human intelligence, in other words, the training of a machine to learn from data, recognize patterns, and make subsequent judgments, with little to no human intervention. Within the context of communication and journalism, AI refers to technologies that are designed to function as a communicator, rather than a mediator, such as conversational agents, social robots, and automated-writing software [25],[26]. This is beyond the automation and digital transformation that transformed journalism as an institution through undercutting business models, upending work routines, and unleashing a flood of information alternatives to news, among other things [27]. Artificial intelligence, algorithms, robots, and other technologies are critical to the new media ecosystem [28]. Companies such as Minecraft, Facebook, Google, and Microsoft are investing today in AI, introducing the conveniently named - “Robot Journalism” or “Algorithm journalism”, those are not robots, but in fact algorithms programmed to transform data into texts [29]. In his book, “Automating the News: How Algorithms are Rewriting the Media”, Nicholas

Diakopoulos argues that "the future of AI in journalism has a lot of people around."[4] He argues that the new "quantitative and novel" forms of journalism have drawn significant attention in academic literature and in the media sector. Loosen, 2018 highlight the four new forms of journalism, data journalism, algorithm journalism, automated journalism, and metric-driven journalism, as shown in figure 3 [30],[31].

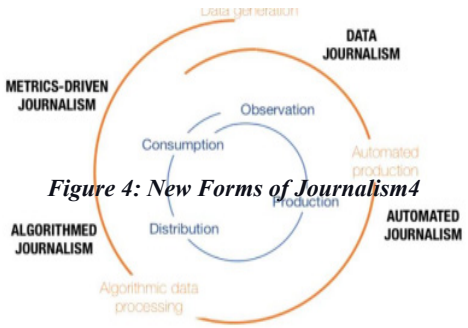


*Figure 4: New Forms of Journalism4*

**Data journalism** refers to the process of extracting useful information from data, and writing articles with added visualization to help readers to understand the significance of the story.

**Algorithm Journalism**: Refers to the intersection between data technology and journalism such as the combination of algorithms, data, and knowledge from the social sciences to supplement the accountability function of journalism.

**Automated Journalism** refers to the emphasis in the increasing amount of content that is being produced automatically and by means of technologies being developed by automated content solutions, such as algorithmic processes that convert data into narrative news texts with limited human intervention.

**Metrics-Driven Journalism**: Refers to the attempts to make sense of the increased amount of audiences' digital traces with the potential to influence decision making and news production process.

The evolution of artificial intelligence techniques have certainly reshaped newsrooms, especially in news production and dissemination. In Figure 4 below, Loosen (2018) pointed out that the technology facilitated by advances in the field of automated content production.

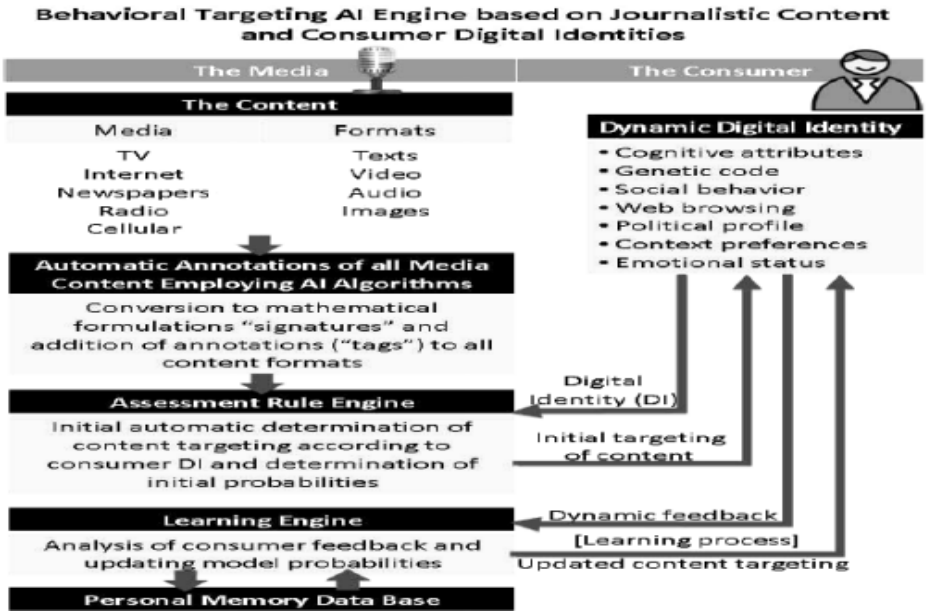


*Figure 5: Automated Content Production25*

Today, it is not entirely unheard-of to have articles written entirely by AI. For example, the Washington Post has developed its own AI solution, called "Heliograph ", to support its editorial team during the 2016 Summer Olympics in Rio. "Heliograph" was used after that to produce 850 articles on political and sports news [32]. AI in journalism is now used to improve content improvement, marketing efficiency and economic feasibility, automation of information validation within the information material, or to speed up the classification of information contained within a massive stream of data [33].

Practitioners and industry leaders believe that AI in journalism is not luxury; it has the potential to enhance journalism in many significant ways [34]. Abdulzaher (2019) argues that AI in Journalism can be represented in 4 main themes: Creating Tools, Content Coining, Audience Diversity, and Continuing Reactions [2]. AI can offer better new gathering (e.g. automatic tagging, entity extraction, etc.) news production (e.g. better machine-generated content, etc.), and better customization (e.g. engines AI could provide significant value in audience engagement, story discovery, and labor efficiently). AI can also facilitate critical tasks such

as automated translation and text generation [35],[36]. Furthermore, AI has proved useful with customizing media news, news flow, and the relationship with public. Additionally, new distribution avenues are now better facilitated by offering new platforms and tools, such as drones, voice, image and text generation, and wearables [37]. Specific examples may include:

- Better personalized distribution of content
- More efficient, automated production of content
- Dynamic pricing both for advertisements and subscriptions
- extractions of more stories in existing data and vice versa
- Better automated transcriptions
- Make content moderation manageable
- Fake news/deep fakes recognition
- New tools for debunking
- Enhanced image/video search
- Deeper sentiment analysis

## Academic programs in Journalism

In general, most undergraduate academic programs in Journalism require between 120-150 credit hours. The degree types vary from a Bachelor of Journalism, to a Bachelor of Arts/science in Journalism, or a Bachelor of Arts in Journalism and Mass Communication. Depending on the degree type, a program is usually composed of general education requirements, journalism requirements, communication requirements, liberal arts requirements, and number of elective courses. The Accrediting Council on Education in Journalism and Mass Communications (ACEJMC) is the accreditation agency responsible for the evaluation of professional journalism and mass communications academic programs. ACEJMC requires that students take a minimum of 72 semester credit hours for a baccalaureate degree outside of journalism and mass communications discipline, and meet the liberal arts and sciences-general education requirements of the institution.

Academic programs in Journalism are offered by many

Higher Education Institutions (HEI) in the US and abroad, including Arizona State University Walter Cronkite School of Journalism and Mass Communication, Drake University School of Journalism and Mass Communication, Temple University Klein College of Media and Communication, Ohio University E.W. Scripps School of Journalism, University of Colorado at Boulder, University of Florida College of Journalism and Communications, Florida International University School of Journalism and Mass Communication, and University of Georgia College of Journalism and Mass Communication.

The world's first journalism school, opened in 1908, at the University of Missouri, UNC Chapel Hill in North Carolina, which offered combined programs in business, science, health, or law to better prepare students looking to practice journalism in those industries. Columbia Journalism School offer a degree in journalism with areas of study in data, documentary, investigate, multimedia, broadcast, business, arts, audio, politics, international, science, and writing. Table 1 shows examples of the distribution of requirements in some of the examined academic programs. As shown in table 1, undergraduate degrees in journalism are distributed across journalism, liberal arts, communication, and general education requirements. Courses with technology component are mostly related to Interactive Design and Development, News Videography, Photojournalism, Social Media, Multimedia, Audio/ Visual Newsgathering, Data Journalism, etc.

| HEI | GEN | COMM/ Liberal Arts/ OTHR | JOUR | ELEC | TOTAL |
|---|---|---|---|---|---|
| Canadian University | 36 | 42 | 30 | 15 | 123 |
| Michigan State University | 39 | 42 | 42 | 0 | 123 |
| Arizona State | 45 | 39 | 38 | 3 | 125 |
| Drake University | 36 | 24 | 44 | 20 | 124 |
| Temple University | 19 | 41 | 46 | 0 | 124 |
| New York | 42 | 18 | 36 | 21 | 117 |
| Maryland | 15 | 65 | 42 | | 122 |

*Table 1: Requirements Distribution of Journalism Academic Programs*

The dialogue in how journalism academic degrees should be reshaped is a never ending one. Academicians and practitioners have argued that neither the practical model nor the academic model is ideal for working journalist. A fusion of the two models could be the answer. Some of the suggestions changes that may help replicate he job environment while studying include; the replacement of undergraduate journalism skills courses with campus journalism and professional internships. Skills training should be phased out of graduate journalism school curricula. Certain advanced courses, such as investigative and documentary journalism, should be retained, along with the core media courses (law, ethics, history, criticism, etc.). More schools should implement focused seminars on the fellowship model for working journalists.

## Proposal and Conclusion - Journalism with AI academic degree

In conclusion, at this time, AI is considered as an enhancement tool to journalism. In other words, an academic degree in journalism with AI components is not expected to be a total revamp in curricula and pedagogy. Rather, the vision is more about AI-embedded components, with specific learning objectives' approach. The proposal here does not also advocate any curricular adjustments that might entail longer graduation times, or increased cognitive load.

Depending on supply and demand, HEI may select one of several approaches that are not mutually exclusive, such as:

1. No substantive change to the existing program. Offering

courses in AI as electives is a plausible starting point.

2. No substantive change to the existing academic program, or core courses. AI content/ modules can be included in some of the technology-related courses; or integrated in an introductory course, for example, AI, machine learning and deep learning in journalism. For example to enhance skills and competencies required to identify fake news, the course would have a module showing how AI can be used to facilitate the detection of false information, as opposed to the time-consuming and subjective manual process.

3. No substantive change to the existing academic program. Introduce one or more course in AI. For example, a courses can be offered to illustrate how AI can assist in multiple-source data –analysis; conversion of speech into texts, or texts conversion into audio; how the use of smart software, can assist in identifying fake news. Students can receive training in a lab environment to software such as Factmata1, which is an AI based software that can reduce misinformation and abusive content online. Another course with a lab can be introduced within the context of news editing in alignment with the editorial policy, for example rephrasing the story to fit the editorial policy of each medium. A software similar to Urbs, which is used by the Associated Press is a good example. AI can also be introduced within the context of content personalization. The course/module can shows students how AI can assist users and businesses to create their personalized news agenda, as well as the possibility to generate news in multiple languages, making content personal, relevant, and favorable [38].

4. Substantive change to the program. Introduce AI as a concentration. This may include dedicated journalism-AI courses on the integration of areas such, sentiment analysis, content management and moderation, automated transcription, image and video, fake news/deep fakes recognition, and new tools for debunking .

As an academician, I have

to keep in mind a number of internal and external factors that would guarantee the feasibility, sustainability, and relevance of any academic program, hence my recommendation to make this transition to Journalism with AI in a few incremental steps. The first step is to start to infuse AI-related content to core courses in journalism, this would sustain the existing programs, yet allow HEI to start the transition.

Then gradually move to the second step by introducing a number of journalism based on AI courses/modules within the existing academic program; and then eventually move into a concentration or specialization within the program. Proposed journalism-AI courses would focus on areas such as introduction to AI, sentiment analysis, content management and moderation, automated transcription with AI, image and video, fake news/deep fakes recognition, and new tools for debunking, and some of the modules proposed earlier. A proposed distribution of requirements is shown in table 2.

| GENERAL ED | Journalism | JOR-AI | ELEC | TOTAL |
|---|---|---|---|---|
| 27 | 48 | 15 | 30 | 120 |

***Table Two: Requirements Distribution of Journalism Academic Programs with AI***

| Category | Examples of courses to choose from |
|---|---|
| General Education | • Emiratis Studies<br>• Arabic Concepts<br>• English Composition I<br>• English Composition II<br>• Mathematics<br>• Natural Science<br>• Innovatio9n and Entrepreneurship<br>• Introduction to information technology<br>• Methods of research |
| Core Courses | • Journalistic Storytelling across Media<br>• Journalism in the Digital World<br>• News Gathering and Assessment<br>• Media Ethics and Law<br>• Storytelling: Interactive News<br>• Storytelling: Magazine and Feature Writing<br>• Video Journalism-Video Producing Broadcast/Web<br>• Advanced Online Storytelling<br>• Exploring Future Digital Journalism<br>• Social Media Practice in Journalism<br>• Data Journalism Research and Investigation<br>• Journalism Newsroom<br>• Editorial Design<br>• Feature Writing<br>• Photojournalism<br>• Magazine Writing and Editing<br>• Radio Newsroom<br>• Television Newsroom |
| Electives | • Mobile Journalism<br>• Fashion Journalism<br>• Gender and the Media<br>• Media and Religion<br>• Sports, Media and Society<br>• Sports Journalism<br>• Politics and Journalism<br>• Health Journalism<br>• Digital, Social and Mobile Marketing<br>• Trauma Journalism |
| AI | • AI, machine learning and deep learning in journalism<br>• Sentiment analysis<br>• Content management and moderation<br>• Automated transcription<br>• Image and video<br>• Fake news/deep fakes recognition<br>• New tools for debunking. |

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