



Artificial Intelligence in criminalistics: new dimensions of AI Copywriting

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Abstract

Aim: To present research opportunities in the field of generative artificial intelligence in forensic science. The study seeks to answer the question of how AI can transform the effectiveness of investigations.

Methodology: The research will build on an experimental methodology through the analysis of case studies and examples of communication with AI. He is involved in practical trials on various AI platforms like Claude.ai and ChatGPT to actually demonstrate how AI can do forensic work.

Findings: AI is not a replacement for man, but it supplements and forms a new quality in investigative work.

Value: The paper presents the collaboration between humans and AI, while highlighting the importance of creativity and critical thinking. Furthermore, it introduces a technology (AI) for forensic science that does not aim to replace humans, but to complement their work, thereby increasing the efficiency and quality of investigative work.

Keywords: AI copywriting, digital forensics, artificial intelligence, generative AI

English-language republication. The Hungarian version of this article was published in *Belügyi Szemle* 2025, SI1. DOI link: <https://doi.org/10.38146/BSZ-AJIA.2025.v73.SI1.pp127-138>

Introduction

This study explores the potential applications of Artificial Intelligence (AI) technology in the field of criminalistics, with a particular focus on the innovative aspects of AI Copywriting.

Generative artificial intelligence refers to an AI model capable of creating new content, such as written text, audio, images, or video ([URL1](#)). Generative AI employs deep learning to analyse large volumes of data and generate innovative content ([URL2](#)).

Criminal investigations typically produce vast amounts of data. Artificial intelligence may be capable of efficiently processing these datasets and generating clear and concise reports. In addition to report generation, AI may also contribute to the planning and execution of investigative activities.

To ensure effective collaboration with AI, particularly in tasks such as ideation, the formulation of so-called prompts is essential. In my opinion, even more crucial is the maintenance of continuous written communication and information exchange with the AI. This continuous written interaction is supported by criminalistics AI Copywriting (Artificial Intelligence Copywriting). Criminalistics AI Copywriting is the process of AI-based text generation focused on criminalistic content, during which the generation of content occurs automatically.

Criminalistics AI Copywriting does not replace human investigators but rather enhances the efficiency of workflows and opens new avenues in investigative processes.

The Emergence of AI Copywriting

In the business world, copywriting is considered a branch of writing that requires creativity and writing skills in order to achieve effective sales, where the message must be formulated in the appropriate tone, style, and format ([URL3](#)). In this context, the copywriter plays an important role in business and marketing ([URL3](#)).

From another, similar perspective, the term *copywriting* is widely used in advertising and marketing to refer to the writing of persuasive texts that promote sales by encouraging the reader to purchase a product or, in some cases, a service ([URL4](#)).

With the spread of artificial intelligence, the expression *AI Copywriting* is becoming increasingly common. AI Copywriting refers to the application of artificial intelligence in the writing process, during which written content is generated automatically—thus revolutionising content creation ([URL5](#)).

AI Copywriting is not only relevant from an advertising perspective; it also offers new perspectives in criminalistics, particularly in the areas of information processing and communication. Documents and analyses generated through criminalistics AI Copywriting may support criminal investigations by communicating information clearly and intelligibly. The texts produced may also be capable of accurately rendering legal terminology, thereby assisting the work of investigators.

Criminalistics AI Copywriting refers to a method in which artificial intelligence and criminalistics are combined to create automated written content, thereby opening new opportunities in the field of criminalistics. The generated criminalistic content may contribute to the collection of evidence (such as witness testimony, suspect statements, physical evidence, electronic data, etc.) and may also assist in the implementation of evidentiary actions—such as scene inspections (Ürmösné, 2024), on-site interrogations, reconstruction experiments, and identification lineups.

In my opinion, the introduction of AI Copywriting into the field of criminalistics revolutionises investigative methods and may also accelerate analytical processes. Criminalistics AI Copywriting speeds up electronic workflows and simultaneously reduces the possibility of human (i.e. user-induced) error. During the process of criminalistics AI Copywriting, the investigator may save time and generate high-quality content.

The most common areas where criminalistics AI Copywriting may be applied include the following:

- 1) Preparation of criminal case documents;
- 2) Digital tracking, data analysis and evaluation, identification of digital characteristics, and development of investigative hypotheses;
- 3) Forecasting of trends, linguistic profiling, and crime prediction;
- 4) Criminal communication: preparation of comprehensible content for authorities and the general public;
- 5) Video and image production, analysis, and recognition;
- 6) Facilitating information gathering and dissemination for the use of covert tools and methods;
- 7) Educational materials: collaborative communication with AI for processing case studies and preparing investigation plans involving the effective use of AI platforms.

These points may also appear during the planning and organisation of investigations, thereby promoting the effectiveness of the investigative outcome. In the case of generative AI, a so-called reversed situation arises: it is not we who

need to adapt to the AI, but the AI that must adapt to us. The presence of artificial intelligence is expected in nearly all areas of criminalistics, where it is likely to be applicable and beneficial (Herke, 2021). Furthermore, artificial intelligence will also transform social relations (Kirpichnikov et al., 2020).

Digital criminalistics is playing an increasingly important role in investigations. Investigators may make use of publicly available data and information, and digital traces may point to individuals or lead to additional clues (URL6).

In summary, new technological tools—AI-based text generation systems—are capable of rapidly producing automated, case-specific messages tailored to the crime and the perpetrator, within a legal context, by analysing databases. The applications of AI Copywriting in criminalistics may be particularly useful in complex legal or criminal contexts. This field is continuously evolving and is expected to open up new opportunities in the future. However, the output—more precisely, the final result and the conclusions drawn, such as the reliability and accuracy of an analysis—remains of paramount importance.

Prompts and Communication with AI

When using generative AI, so-called prompts are frequently employed. Prompts typically refer to textual commands or instructions; however, it is likely that voice-based input will become increasingly common in the future. A prompt is the input or instruction provided to a language model in order to obtain the best possible response (URL7). Common copywriting prompt models include AIDA (Attention, Interest, Desire, Action), PAS (Problem, Agitation, Solution), and FAB (Features, Advantages, Benefits) (URL8). Additional examples include BAB (Before, After, Bridge) (URL9) and the 4P prompt (Promise, Picture, Proof, Push) (URL10).

However, communication with generative AI may prove to be significantly more effective than even a well-written prompt, as demonstrated by the following AI-generated exchange.

The author submitted the following factual scenario to the AI on the claude.ai platform: *“A 31-year-old Hungarian and a 28-year-old foreign supporter engaged in a scuffle in the spectator area during a match in June last year, following a prior verbal altercation [...] On 27 June 2021, at the Puskás Ferenc Stadium during the UEFA European Football Championship match between the Netherlands and the Czech Republic, the 31-year-old Hungarian male became involved in a dispute with two other supporters of Russian nationality, due to their previous disorderly conduct. During the verbal exchange, the 31-year-old*

Hungarian male stepped one row forward and pushed one of the foreigners, who, as a result, lost his balance and fell over the row of seats behind him. Upon witnessing this, the 28-year-old Russian male attempted to strike the Hungarian supporter with significant force, but the latter dodged the blow, which thus missed him. Subsequently, the Russian male tried to grab the Hungarian supporter's leg; however, this was countered by the Hungarian supporter, who kicked towards him several times and then pushed him. As a result, the Russian male also lost his balance and fell over the row of seats behind him.” (URL11)

The individuals involved could not be identified; however, a video recording is available, and a witness has also come forward who would be able to identify the perpetrators.

Following the presentation of the factual scenario, the AI was asked the following question: What kind of investigation plan could be developed?

The response from claude.ai (URL12):

“Investigation Plan and Strategy:

1. Investigation plan

- Primary evidence: video recording*
- Identification of the witness*
- Interviewing the stadium security personnel*
- Identification of the perpetrators*
- Detailed analysis of the video footage*
- Application of facial recognition software*
- Examination of the stadium entry control system*
- Review of ticket sales and registration data*
- Verification of records related to supporter groups*
- Investigative actions*
- Detailed interview with the witness*
- Expert analysis of the video recordings*
- Documentation of the crime scene inspection*
- Locating potential witnesses in the surrounding area*
- Cross-checking with sports policing databases*
- Acquisition of footage from police and security cameras*
- Frame-by-frame analysis of the video recordings*

Collecting and organising evidence is key to a successful investigation.”

The AI's response included several points that may contribute to criminalistic thinking, and the conversation itself could have been further explored. Additional questions could have been asked, potentially generating new ideas for the author (or the investigator) in the planning of the investigation. One of the

tasks identified in the investigation plan by the AI was the “detailed interview with the witness.”

I was curious to know what questions another AI-based system would propose to ask the witness, based on the available data. For this reason, I used ChatGPT, and after providing the available data, I submitted the following question: *What questions could be asked of the witness?*

ChatGPT’s response ([URL13](#)):

“During the interrogation of the witness, targeted questions should be asked that help confirm the factual scenario, clarify the details, and identify the supporters. Below are some possible questions that may be posed during the interview with the witness:

- 1) General questions about the witness and their relation to the events:*
 - What was your relationship to the events at the location? Were you present at the match?*
 - Where exactly were you located during the match when the verbal exchange and scuffle occurred?*
 - How did you recognise the individuals involved, or why do you believe you would be able to identify them?*
- 2) About the verbal exchange and its background:*
 - What did you see or hear regarding the argument between the two supporters? What do you believe caused the dispute?*
 - How did the conflict start? What did the men say to each other during the exchange?*
- 3) About the physical altercation and behaviour:*
 - Did you see the 31-year-old Hungarian man step forward and push the foreign man?*
 - What did you observe about the reaction of the 28-year-old Russian man? How did he attempt to hit the Hungarian supporter?*
 - What happened when the Russian man tried to grab the Hungarian supporter’s leg? What did the Hungarian man do in response?*
 - Did you observe how the Hungarian man reacted to the Russian man’s movements? How did he defend himself?*
 - What happened when the Russian man lost his balance and fell over the row of seats?*
- 4) Questions related to the identification of the supporters:*
 - How can you be sure that the two men you are referring to are the same two supporters involved in the conflict?*
 - Did you notice any distinctive characteristics (e.g. clothing, physique, behaviour) that would help you identify them?*

- *Did you see if anyone else witnessed the incident who could assist in the identification?*

5) *About the surrounding events:*

- *What happened after the incident? How did the people around them react?*
- *Did you see if the security personnel or match organisers responded to the events?*

6) *About the video recording:*

- *Have you seen the video footage of the incident, or are your statements based solely on your own observations?*
- *In your opinion, do the individuals seen in the footage match what you personally witnessed?*

The aim is for the witness to recall the events as accurately and in as much detail as possible, in order to assist in the identification of individuals and the reconstruction of events. The answers to these questions may assist the court in clarifying the facts of the case. ”

The questions formulated by the AI likewise contribute to conducting a detailed witness interview. However, several of the questions are formulated incorrectly from a criminalistics perspective, as they could potentially convey information to the witness or influence the course of the interrogation. Such questions might also endanger the success of the investigation. For this reason, I found it justified to indicate the problem to the AI and generated a follow-up question: “*’Did you see the 31-year-old Hungarian man step forward and push the foreign man?’ — this is one of the questions you suggested! But in my view, this may not be appropriately worded, as it conveys information to the witness and may influence them. What is your opinion? How do you think this question should be asked?’*”

ChatGPT’s response:

“You are right that the question I initially suggested conveys information about the identity of the perpetrator, and may therefore potentially influence the witness’s response. It is important that the witness bases their testimony on their own observations, without being told in advance what happened. Your consideration is correct, and the question should be phrased in a way that prompts the witness to describe their own impressions and perceptions.

Below, I have rephrased the question to avoid influencing the witness:

- *What did you see during the verbal exchange? How did the men react to one another?*
- *Did you see what happened between the two men after the argument began?*
- *What movements did you observe from both men during the conflict?*

These questions encourage the witness to report what they saw based on their own perceptions, without implying what exactly occurred. This helps avoid

influencing the witness's answers with information already known about the facts of the case."

The AI recognised, following my question, that the proposed question could convey information and thus immediately attempted to correct it and provided a justification. It is evident that the above dialogue prompts the AI to reconsider its own responses. The questions could have been further refined, and the conversation could have continued. However, the aim was to demonstrate that it is not always advisable to issue commands (prompts) to the AI repeatedly or continuously; rather, it is more beneficial to engage in a dialogue. When we engage in a conversation with the AI, the effectiveness of the collaboration can be enhanced significantly.

In summary, based on the above, it can be stated that well-formulated questions and ongoing interaction enable the AI to better understand what information we are seeking. As a result, it is able to provide more accurate and relevant responses that contribute to the execution of the investigative measure—in this case, the witness interview.

In my view, the generation of even more accurate and relevant texts is enabled by continuous communication with the AI, which proves to be more effective than issuing a single command (prompt).

Furthermore, AI also offers the possibility of generating videos and images using various methods of video generation, as well as enhancing image quality with AI tools. (This may assist, for example, in reconstructing a crime scene or carrying out an evidentiary experiment.)

It is possible to generate images, videos, and audio from text. Objects or shapes present at the crime scene can be recognised and labelled, and elements can also be added to or removed from existing videos. However, when creating videos, prior knowledge of camera movements allows for more effective prompting or initiating a dialogue. Therefore, having classical background knowledge is essential.

The Significance of Collective Knowledge in AI

Criminalistic collective wisdom can also emerge in the interaction between humans and AI. AI analyses and evaluates the collective knowledge and body of information accumulated by humanity.

AI is built on so-called patterns and incorporates human experience and knowledge, and thus collective wisdom. For this reason, the potential inherent in collective wisdom should be utilised. Through collaboration and "conversation,"

AI may also be able to provide answers to specific questions related to criminalistics. It is essential to work, or rather, to “think” together with AI—more precisely, to engage in communication with it. In this context, the elements of criminalistic thinking, such as imagination and creativity, are of significance. In other words, humans must be creative in order for collective wisdom to be realised. However, at the end of the process, doubt must also emerge on the part of the human—serving as a control mechanism.

AI (artificial intelligence) should be regarded as an investigative support assistant, a new colleague who contributes ideas and thereby supports both collective wisdom and criminalistic thinking.

Conclusion

Criminalistic AI copywriting can play a role in preparing for investigative tasks, acquiring information, and improving the quality of legal and criminal communication.

In the near future—within a few years—AI-based police robots will also appear in police work. Such AI-powered robots are already assisting police work on the streets in countries such as South Korea and Singapore (Gyaraki, 2023). These police robots are expected to replace human officers in situations where human life is at risk. Such an operation may include, for example, the apprehension of dangerous offenders—those carrying weapons—where the intervention would be carried out by the police robot.

It is advisable to examine what ethical and legal questions may arise from the use of open and closed AI systems, as well as from the issue of the so-called black box effect. There are cases in which even the researchers do not know how the AI reached its conclusion or result. In other words, the process by which the AI arrived at its output may be untraceable. If the analytical-evaluative process cannot be explained, if it cannot be described how the AI analysed the data, the accuracy of its conclusions may be questioned, and the results may not be admissible in court proceedings in the future ([URL 14](#)). Therefore, the findings should be treated as hypotheses until the validity and credibility of the conclusion have been verified.

From the perspective of investigations, the protection of information is essential. Therefore, when using open-source AI applications (accessible to anyone), legal provisions must be observed, and only public information that does not compromise the outcome of the proceedings may be shared. (It is necessary to avoid disclosing exact locations, dates, methods of commission, and

data concerning victims; instead, it is advisable to use general wording from which no conclusions can be drawn regarding the specific criminal case.)

Professionals may face new challenges as a result of the continuous development of digital forensic tools and the rapid advancement and growing prevalence of AI. At the same time, these developments also create new opportunities. It is important that criminalists continuously monitor changes and innovations in the field of artificial intelligence, learn them, and apply them in the course of investigations. Artificial intelligence permeates society and workflows, thereby influencing our lives.

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Online links in the article

- URL1: *Mi a generatív mesterséges intelligencia? [What is generative artificial intelligence?]* www.sap.com/hungary/products/artificial-intelligence/what-is-generative-ai.html
- URL2: *Mit jelent a generatív mesterséges intelligencia (Generative AI)? [What does generative artificial intelligence (Generative AI) mean?]* <https://www.xlabs.hu/blog/mit-jelent-a-generativ-mesterseges-intelligencia-generative-ai>
- URL3: *Dávid Ádám: Ki az a copywriter? Egy profi szövegíró feladatai. Kiszervezett marketing. [Who is a copywriter? Tasks of a professional copywriter. Outsourced marketing.]* <https://kiszervezettmarketing.hu/online-marketing/copywriter/>
- URL4: *Copywriting.* <https://mitjelent.hu/szotar/copywriting/>
- URL5: *The Rise of AI-Copywriting: How Artificial Intelligence is Revolutionizing Content Creation.* <https://writeseed.com/blog/the-rise-of-ai-copywriting-how-artificial-intelligence-is-revolutionizing-content-creation>

- URL6: Takács Fanni Bernadett (ford.): John Doe a kibertérben: Hogyan leplezheti le a digitális kriminalisztika az online bűnözőket? [John Doe in cyberspace: How can digital forensics uncover online criminals?] <https://jogaszvilag.hu/a-jovo-jogasza/john-doe-a-kiberterben-hogyan-leplezheti-le-a-digitalis-kriminalisztika-az-online-bunozoket/>
- URL7: Bereczki Nóra: Mi az a Prompt Engineering? Értsük meg egy példán keresztül! [What is Prompt Engineering? Let's understand it through an example!] <https://www.xlabs.hu/blog/mi-az-a-prompt-engineering-ertsuk-meg-egy-peldan-keresztul>
- URL8: Just bee digital. <https://justbeedigital.hu/ai-promptiras-kurzusok/>
- URL9: Before After Bridge Copywriting (BAB) for Cold Email (Best Tips, Examples). <https://www.gmass.co/blog/before-after-bridge-copywriting/>
- URL10: Promise Picture Proof Push (4Ps) Copywriting for Cold Email (Templates, Tips). <https://www.gmass.co/blog/promise-picture-proof-push/>
- URL11: A történeti tényállás forrása: Meccsen garázdálkodtak – videóval – a Fővárosi Főügyészség sajtóközleménye. [Source of the factual background: Disorderly conduct at a match – with video – press release of the Chief Prosecutor's Office of Budapest.] <https://ugyeszseg.hu/meccsen-garazdalkodtak-videoval-a-fovarosi-fougyeszseg-sajtokozlemenye/>
- URL12: claude.ai. <https://claude.ai/new>
- URL13: chatgpt. <https://chatgpt.com/>
- URL14: Zac Amos (2024), Kiberbiztonság, Hogyan javítja a mesterséges intelligencia a digitális törvényészeti elemzést? [Cybersecurity, How Artificial Intelligence Enhances Digital Forensics?] <https://www.unite.ai/hu/how-ai-enhances-digital-forensics/>

Reference of the article according to APA regulation

Nyitrai, E. (2025). Artificial Intelligence in criminalistics: new dimensions of AI Copywriting. *Belügyi Szemle*, 73(SI1), 199–210. <https://doi.org/10.38146/BSZ-AJIA.2025.v73.SI1.pp199-210>

Statements

Conflict of interest

The author has declared no conflict of interest.

Funding

Supported by the EKOP-24-4-II-33 University Research Scholarship Program of the Ministry for Culture and Innovation from the source of the National Research, Development and Innovation Fund.

Ethics

No dataset is associated with this article.

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