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ARTIFICIAL INTELLIGENCE – HUMINT'S SMART FRIEND IN 2040

MUNTEANU Lucian, Engineer

NATO HUMINT Centre of Excellence, Concept Development & Experimentation , ORADEA, ROMANIA

Abstract:

We are in the year 2040, when the artificial intelligence powered systems represent the weapons of choice in military conflicts. The confrontations are less visible in physical environment, but the amount of related information is much more extensive and generated by both humans and machines. The pace of operations is beyond the human ability to absorb, interpret and make complex decisions. HUMINT has adapted by calling a "smart friend" in support. This friend is nobody else than Artificial Intelligence – AI. When your interlocutor could be an AI-assisted human being or even an independent AI system, it is mandatory to use the *"smart friend"* to enhance HUMINT capacity to engage with such counterpart. This scenario-based article emphasizes the use of AI-powered HUMINT abilities to sense, reason, engage and learn to obtain information in order to identify the enemy in a future, technologically saturated, operational environment.

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Key words: HUMINT; human; intelligence; artificial; military; technology; source; engage; learn.

1. Scenario

At the beginning of the year 2040, a conflict emerged in BRANDEA [1] and a multiple nation alliance is conducting a Crisis Response Operation in this country. The artificial intelligence powered systems represent the weapons of choice in this conflict where, consequently, even though confrontations are less visible in the physical environment, the amount of related information is much more extensive and generated by both humans and machines. It is a technology conflict, with drones in the air, cyber-attacks, 3D printed military assets, robot-armies, lab viruses and so forth. HUMINT (Human Intelligence) has adapted to this technologically saturated operational environment in order to better engage with its interlocutors and identify the enemies. Let us see what HUMINT has done!

2. What is HUMINT in 2040?

In the year 2020 HUMINT was defined as military intelligence gained from human sources with knowledge of the target area [2]. The human-being was in the center of HUMINT activities, both as collector and source of information [3]. Of course, the collector (human being) was supported to a certain extent by technology, such as recording devices, spy gadgets, drones, etc. Beside this, some nations have started to scratch a little bit the surface on collecting information in virtual environment.

By that time, in 2020, some other definitions played a premonition role in HUMINT domain. Thus, HUMINT was also defined as the collection of foreign information – by a trained HUMINT

collector – from people and multimedia [4]. Still, human being was in the center, but only as collector, because the source could have also been a multimedia device, not mandatory a human being.

Nowadays, in 2040, the HUMINT has changed and one of the most appropriate definitions could be: intelligence derived from information collected from a human source or thing by a trained human being or a thing (e.g. programmed software).

The HUMINT paradigm has changed, from *human being - human being (HB-HB)* to *human being / thing - human being / thing (HB/T – HB/T).* A simple mathematical calculation reveals four different possibilities to collect information: HB-HB, HB-T, T-HB and T-T. It looks complex and difficult to manage and control HUMINT activities.

But what is this "thing - T"?

3. Sense, Reason, Engage and Learn Functions of Artificial Intelligence

Nowadays, in 2040, the conflict is apparently invisible, but the amount of information behind hybrid confrontations is much bigger than 20 years ago, when HUMINT was able to keep up with the battle's challenges by using only classical human interaction for data collection, supported just a little bit by machine processing. The huge amount of data is generated by both humans and machines, far outpacing the human ability to absorb, interpret and make complex decisions. HUMINT has adapted by calling a "smart friend" in support. This friend is nobody else than Artificial Intelligence (AI), *"a computer technology that allows something (ed. n. HUMINT activities) to be done in a way that is similar to the way a human would do it"* [5].

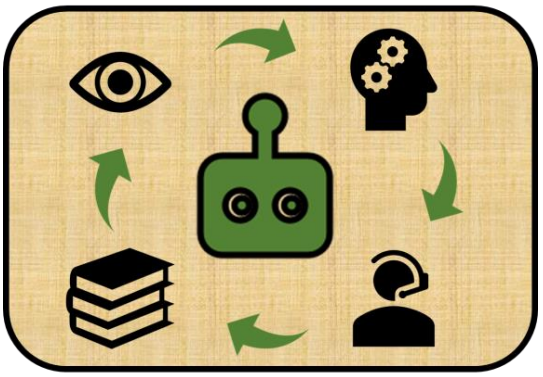

Fig.1 – AI's functions in HUMINT – Sense, Reason, Engage and Learn

Twenty years ago, in 2020, HUMINT used the machine's abilities to record and analyze data, and everybody was satisfied with this standard. Nowadays, when your interlocutor could be an AI assisted human being, or even an independent AI system, many nations use AI for boosting their HUMINT capability to engage with any interlocutor and learn at the same time [6]. Therefore, AI abilities to sense, reason, engage, and learn are critical requirements for HUMINT know-how to obtain information and identify the threats.

4. The Role of Artificial Intelligence in Military Conflict

Now, in 2040, HUMINT is performing in both physical (land, sea, air) and cyber environment, and its "smart friend" equally escorts military operations in both dimensions. Like many other fighting equipment – aircrafts, artillery systems, light infantry weapons – AI in HUMINT creates the functional link between these two different domains, virtual and physical.

Spontaneously, AI is jumping from one side to another, engaging in cyber, sensing in physical, reasoning in its "brain", and eventually compiling data for learning and supporting decision making.

AI is a new reality game changer that comes together with several moral and ethical issues [7], but some military strategic thinkers say this new reality is nothing more than a computing simulation [8]. The final decisions in battle space are not fully transferred to AI, HUMINT being one of the most conservative domains where the button for information or source validation is still pushed by human beings. Technological singularity [9] has not been reached in HUMINT.

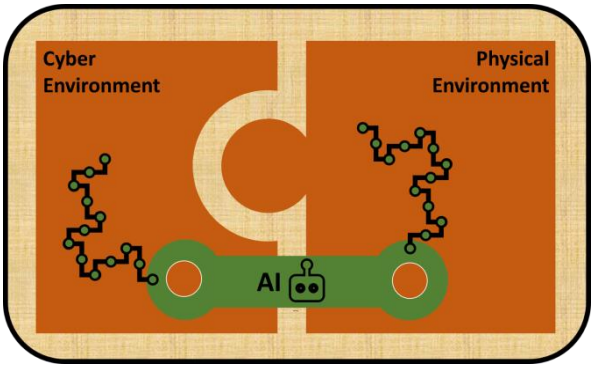

Fig. 2 – AI's role in military operations

5. How does HUMINT makes use of Artificial Intelligence in BRANDEA?

5.1. Identify, Filter, Engage and Contact the Persons of Interest

Marketing and Sales science is a professor for HUMINT, by employing the smart friend in client spotting. The principle is clear, you are looking for a specific client profile and AI is looking for that profile by searching, identifying, filtering, selecting the best, engaging or just scheduling a call. HUMINT released this "chat bot beast" on cyber environment and, over the night, the sources portfolio grew bigger. This beast is nothing else than a computer program that mimics intelligent conversations [10]. A 24/7 HUMINT chat bot is also available for virtual "visitors", opening the door for conversation, saving resources and time, and obtaining immediate critical information. Of course, the smart friend personalizes each engagement [11] with the HUMINT clients and afterwards advises military decision-makers what to do in the next step. HUMINT became part of the undercover technology elites [12].

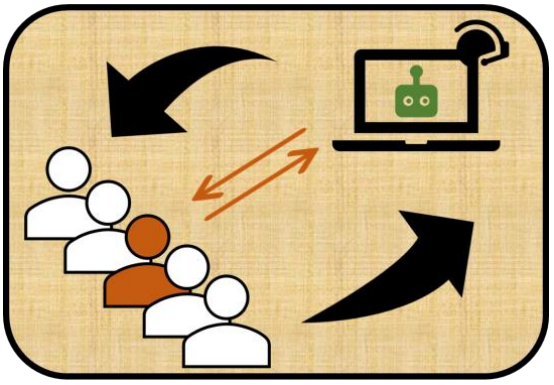

Fig.3 – HUMINT chat bot activity in cyber environment

5.2. Real Time Guidance to Better Engage with the Interlocutor

The smart friend is a reliable one and is always accompanying the HUMINT operators in mission. Imagine a meeting of two HUMINT operators with their client and the AI's sense function activated through different sensors attached to one of the operator. It's a perfect environment for AI that is running a behavioral analysis by taking into account multiple factors related to the client's voice – like energy, interruption, emphaty, participation, tone, pace [13] – and, at the same time, reading client's micro-expressions [14]. Even more, based on client's interests, choices and hobbies, our smart friend offers recommendations. Therefore, AI provides real time guidance to better engage and connect with the client. Some HUMINT-ers lives were saved by their smart friend, when the warning "THREAT" was displayed on the smartphone screen.

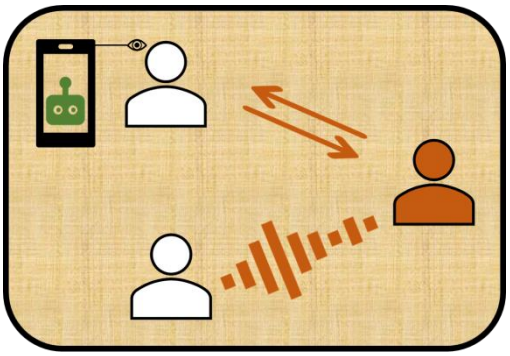

Fig.4 – AI's real-time guidance in HUMINT

5.3. Identify Surveillance and Route Planning in a Self-Driving Car

AI is planning the HUMINT mission route, AI is driving the HUMINT operator's car, AI is identifying the surveillance along the route [15], while AI is paying attention to the micro drones that could hit the passengers with a micro-dart. What a smart guy, and how lazy the HUMINT-ers are!

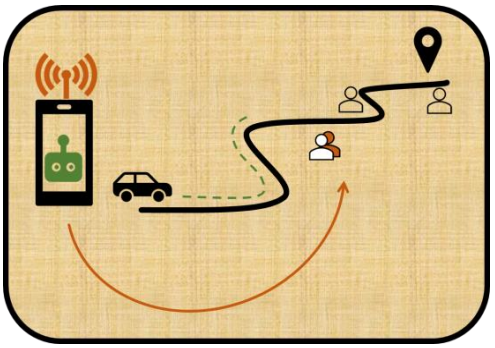

Fig.5 – AI's assistance along the route

Still, what do the HUMINT operators do during all this time? They are still in charge with the final decisions, they confirm the route suggested by their smart friend, they ask more questions when surveillance is identified, and they continue the preparations for the meeting with the client. Somehow, they must be very keen to look for more information and not to be satisfied with what their smart friend is offering.

But are they capable to absorb so much information in order to take the final decisions? Are they motivated enough to fight for more when you have a genius nearby? Maybe there is a need of another AI to solve all these psychological dilemmas [16].

5.4. Spontaneous Assistance - On the Go

One of the HUMINT challenges during the meeting with the client is to figure out whether the client is lying or offering you outdated or mass-media information [17]. The smart friend is providing its support on the go. It is just enough during the meeting to repeat with a coded expression the information needed to be validated, and the AI starts looking for it. The answer could be "YES" or "NO" in digital format, or just a vibration in your pocket. The same spontaneous assistance is used by HUMINT personnel during the mission planning, when they prepare the strategy of approaching the client, for both aspects – operational and informational. The AI advice on how to continue the relationship or inquire the client is nowadays critical for the HUMINT success. It is worth mentioning, that spontaneous assistance is also used for source crowded, real-time threat evaluation [18].

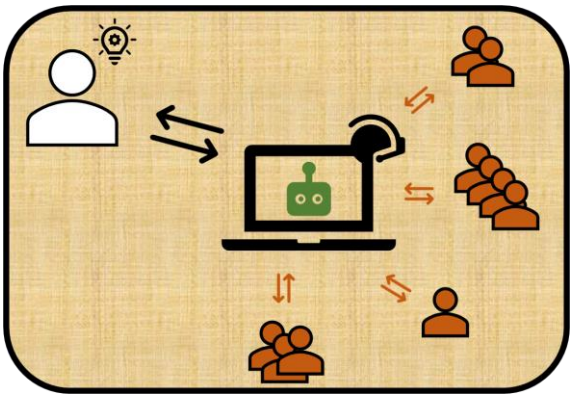

Fig.6 – AI's spontaneous assistance – on the go

5.5. Interlocutor Profiling and Validation

Two spies were revealed in the last month, one is a human being, the other one is a "cousin" of our smart friend – the black sheep from AI family. Was it difficult? Once HUMINT had the voice, video, some medical parameters and writing recordings of the interlocutor it was just a matter of seconds for AI to develop full reports on client reliability, psychological profile, hobbies, patterns which neither the client was aware of [19]. This is a recurrent process applied for each client's dossier update. After few updates for the HUMINT clients, those two spies were discovered starting from a suspicion triggered by AI, which revealed an indicator for spy behavior to avoid normal day-to-day patterns. AI discovered that there is a pattern in not following other patterns. Wow!

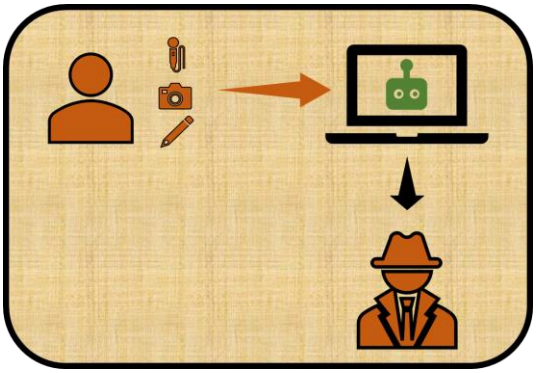

Fig.7 – AI's identifying the spies

5.6. Real-World Simulation

The HUMINT training and mission planning is tailored to the client … the operator can load the client's data, psychological profile, expertise, knowledge, behavior etc. on the "smart friend's brain" and here you have a pretty good clone of your client you can talk with. This system is used also in education and training before deployments in theater of operations and, of course, for planning the real mission.

The training is tough, but most of the time the operator has another smart friend in support, which helps him/her to engage with the AI interlocutor. Basically, in such cases, the main role of the HUMINT operator is to mediate the "fight" between two smart friends, the interlocutor and the supporting AI [20]. This is a new skill of HUMINT operator, to understand how AI is designed to sense, reason, engage and learn in order to build a fruitful relationship with the smart friend.

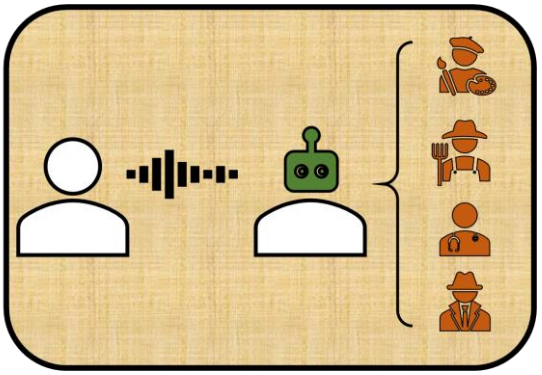

Fig.8 – AI's customized real-world simulation

5.7. On the Verge of Human Enhancement

There are a lot of stories about the use of human enhancement in HUMINT activities, but it seems that this subject is a top secret one because all you can get is just rumors and stories, and even if the author of this article used a smart friend to obtain more information, the information could not be validated. Anyway, the future seems to bring forward the telepathic communication, mind reading, brain info recovery, feelings creation, genetic engineering and, finally, quantic human enhancement. It is science-fiction? Difficult to give a verdict. Our smart friend was also science fiction not so long time ago, now we cannot leave without it.

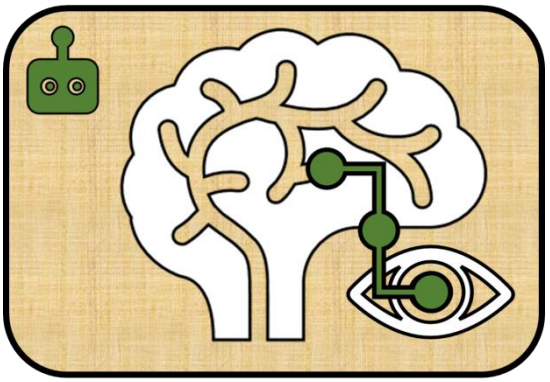

Fig.9 – On the verge of human enhancement

6. Conclusions

The smart friend is helping everybody, even the enemy; the battle is more technological than ever. We expect the enemy to enable at least the same type of smart friends around. Of course, we are showing off here in this article, but meanwhile maybe the enemy has literally already read our military leaders' mind and they are with one step in front of us.

We have reached such a high technological peak and we are heading in the next 20 years towards the use of cyborg and genetic engineering capabilities in HUMINT … and when we are able to better harness the quantic mechanics, in that moment maybe everything will be One, the Quantic Matrix. No need of HUMINT, SIGINT, IMINT etc. anymore because everything could be retrieved through quantic waves. What?

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