

A European Positive Sum Approach towards AI tools in support of Law Enforcement and safeguarding privacy and fundamental rights

# **D3.6 - Photo Competition Results**

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Authors	Sofia Segkouli, Anastasios Drosou, Traianos-Ioannis Theodorou, Aikaterini Lefkaditi (CERTH)		
Contributors	Pinelopi Troullinou (TRI), Paola Fratantoni (Z&P), Elena Galifianaki (NCSRD)		
Reviewers	Andreas Ikonomopoulos, Dimitris Kyriazanos (NCSRD)		



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### **Executive Summary**

The present deliverable D3.6 "Photo competition results" provides a detailed description of the Student Photo and Caption competition which had been held in order to bring in the voices of new citizens, and increase their awareness and activity in the domain. The main objectives of the deliverable are:

- Host and curate, the competition via its platform (T5.2) and support universities around Europe to put out an open call for students to reflect with a photograph and short narrative caption on the ethical issues related to different AI and policing controversies.
- Engage new citizens on justice concerns, around gender, race, and inequalities and how they understand their connection to policing data and AI.
- Reach new audiences to unfold the complex reflections around ethical concerns of AI policing data and provide a rich qualitative data source for understanding emergent and future concerns, and recommended guidelines around the use of AI use by LEAs.
- Advertise the event through diverse means such as (a) iterative emails to university departments specialized in social and STEAM sciences at national and European levels (b) Information posted on CERTH's official social media accounts (c) personal contacts with university professors and (d) the website of Greek universities (e.g., University of Macedonia, Department of Applied Informatics, class in Business Strategy and Innovation).

Specific criteria have been defined for setting up the competition and the evaluation of the results.

The present report consists of six (6) main sections:

**Section 1**, the introduction highlights the main purposes and objectives of Student Photo and Narrative Caption competition and describes the relation with other work packages and deliverables.

The following section (**Section 2**) provides a theoretical background discussing the power of visualizing concerns about AI use in respect to policing data. In this section, information is provided about the eligibility criteria of photo competition participation, photo and narrative captions' specifications, thematic areas, criteria of selection and excellence as well as information about participation purpose and requirements. Moreover, information about the website design and development is provided. Also, demographical and statistical data as contest output is presented in this section.

**Section 3** discusses the methodology followed to set up the Student Photo and Caption Competition. More specifically information in this section information is provided in respect to the responsibilities assigned in terms of this activity as well as the actions that have to be planned and organized in order to initiate and finalize the event. The photo competition has been organized and managed by the Centre for Research and Technology Hellas (CERTH).

**Section 4** presents the results of the Student Photo and Caption Competition. **Section 5** illustrates voting results, information about the photo competition winners and statistical data about the voting process.

**Section 6**, draws a conclusion and provides insights on how the findings of Student Photo Competition can be useful in the overall objective of the popAI project. In particular, this section provides insights on the whole process of photo competition planning and implementation, obstacles and mitigation measures as well as lessons learned for future initiatives.



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## **Table of Terms & Abbreviations**

Abbreviation	Definition
AI	Artificial Intelligence
LEAs	Law Enforcement Agencies
SAB	Stakeholders' Advisory Board
STEAM	Science, Technology, Engineering, arts and Mathematics
SSH	Social Sciences & Humanities
IPR	Intellectual Property Rights
HCAI	Human-centered AI
FRT	Facial recognition technology



## **1** Introduction

### **1.1** Scope of the deliverable

Deliverable 3.6 "Photo Competition Results" describes in detail the process followed by popAI partners hosting a competition and supporting universities to administer an open call for students to reflect with a photograph and short narrative caption on the ethical issues related to different AI and policing controversies. Of specific interest was to engage new citizens on justice concerns, around gender, race, and inequalities and how they understand their connection to policing data and AI. The competition was advertised via (a) emails to university departments specialized in social and STEAM sciences at national and European levels, (b) information posted on the CERTH social media accounts, (c) personal contacts with university professors and (d) the website of the University of Macedonia. The competition focused on reaching new audiences, unfolding the complex reflections around ethical concerns of AI policing data and providing a rich, qualitative data source for understanding emergent and future concerns on which recommended guidelines around the use of AI should be adopted by LEAs. Specific criteria were defined for setting up the competition and evaluating its findings.

In the Student Photo and Caption competition the value of community from diverse faculties and sciences which could involve AI, participation is recognised. In terms of this contest, the spirit of new connections and solidarity creation is supported as people engage through a format other than words. AI oriented images is challenging to a diverse community. Sharing opinions and visions through photos is considered an easy and interactive mean for cross-country exchange as it removes the language barriers and can stimulate novel possibilities and concerns.

The competition was organised and managed by CERTH and disseminated through a campaign hosted in the project platform. Initially a mapping of relevant faculties of universities and research centres has been conducted and their representatives had been invited to reflect with a photograph and short narrative caption on the ethical issues related to different AI and policing controversies.

The main aim of this competition was to reach new audiences, unfold the complex reflections around ethical concerns of AI policing data and provide a rich qualitative data source for under-standing emergent and future concerns, which recommended guidelines around the use of AI use by LEAs. In alignment with this vision, new audiences of citizens and civil communities had to be engaged to bring their concerns and recommendations around justice gender, race, and inequalities, unfold the complex reflections around ethical concerns of AI policing data and provide a rich qualitative data source for understanding emergent and future concerns, which recommended guidelines around the use of AI use by LEAs. Images can hold critical information and can leverage the perspectives of different stakeholders involved in organizing and contextualizing image data. Image data can provide valuable insights in the security domain. For instance, a crime scene that hold critical information for a police investigation. In addition, image data can trigger more immersive and interactive experiences [1].

The popAI photo competition design and implementation were an integral part of this argument. The main objective of the Student Photo and Caption Competition was to engage new citizens from universities around Europe and diverse scientific fields to convey a message and render an opinion through a photo and a complementary caption.



D3.6 "Photo competition results" relies upon the main contribution of popAI which is to create a range of pathways that give voice to those culturally less inclined to speak in diverse settings (often the case of women and minorities) while supporting our understanding of networks that will engage women, minorities, and more vulnerable populations in the innovation ecosystems in sustained ways.

## 1.2 Relation with other project tasks & deliverables

In particular, the work carried out in D3.6 is overall related with the work performed in WP3 "Empirical Knowledge Collection and Management Framework. More specifically with action T3.2 "Provide recommendations and best practices towards a positive sum approach for use of AI in the security do-main and safeguarding privacy and fundamental rights" to achieve Objective 3, since photos and narrative captions were anticipated to communicate ethical concerns on AI surveillance and security. Action 3.2 examine how diverse stakeholders discuss AI and policing on social media to express fears, concerns, and optimism around AI in policing.

In addition, D3.6 build on this analysis of citizens' discourses understanding to complement this evidence of social networks with the artistic method of Photos and narrative captions, anticipating to communicate and elicit ethical concerns sparked in AI surveillance.

Both activities of T3.2 and T3.6 aim to provide results about public discourse, as corresponding guidelines, recommendations and practices.

Moreover, D3.6 is directly related to Action 3.3 "Engage citizens and stakeholders in prioritizing key concerns and articulating recommendations to address these concerns through civil society engagement and popAI crowdsourcing and social listening tools". D3.3 sets out a conceptual and practical frame for T3.6 activities as its main aim is to actively engage EU citizens in identifying key concerns and best practices for avoiding harms and ensuring benefit from AI in policing.

Both activities are built upon the controversies identified in WP2 "Functionality taxonomy, data set mapping and emerging practices and trends", from which partners prepare targeted questions to assess and compare how citizens from different countries and backgrounds understand and experience the controversies.

In addition, D3.6 is directly related to 3.4 "Engage new citizens through artistic practices to capture emergent concerns and potentials" as the reason behind the photo contest was to engage new citizens in order to share different notions in respect to AI and policing data and overall exploit community participation from diverse faculties and sciences, which could involve AI. Deliverable 3.6 is also interlinked to WP5 "Dissemination, Communications and Sustainable Com-munity Engagement, more specifically", T5.1 Community building and ecosystem engagement activities which focus upon the community building and ecosystem engagement activities of the pop AI project and T5.2 pop AI platform which hosts T3.6 competition activities.



## 2 Scope & objectives of the deliverable

This deliverable (D3.6) entitled "Photo Competition Results" is characterized mainly of artistic nature and draws upon ethical issues related to different AI and policing controversies.

## 2.1 Identifying & visualizing AI concerns in policing data

Ethical and legal perspectives of AI use as well as gaps and challenges in addressing the impact on human rights' principles have widely been discussed and debated. Among the main concerns are: algorithmic transparency, cybersecurity vulnerabilities, unfairness, bias and discrimination, Intellectual Property (IPR) issues, privacy and data protection issues, liability of accountability [2].

A vast number of initiatives aim to investigate the principles of AI development, and use in an ethically acceptable manner. However, what is still unclear is how these entities and organizations that use AI conceptualize and operationalize ethical concerns and issues in practice [3].

Gaining more insights of how AI should be deployed, used and monitored is of high importance for organizations/entities and a number of representative stakeholders such as academics and policy makers. Specific concerns are raised in respect to justice assignment, in cases AI is used by Law Enforcement Agencies (LEAs). Main concerns that are related to justice include access to public services, fairness and issues of discrimination and bias [4]. Also, considerations are raised for human autonomy limitation due to machines' autonomy [19].

Another area of high ethical and legal consideration in organizations using AI is that of IPR issues which determine who is the data owner, which are the purposes of this data and if consistency is demonstrated in respect to these purposes. Within popAI an exhaustive analysis of human, social, ethical, legal and organizational aspects along with AI in the law enforcement and diverse security implementations is conducted according to the guidelines of global forums (e.g., World Economic Forum, WEF) [5].

Over the course of history, people in general have proven their ability to "sense" heir environment; this argument could be considered the beginning of citizen science.

Photos are language neutral, and have long been a form of engaging in social issues without creating language barriers and allowing to express and share feelings among people from different countries and cultures.

Citizens can be key actors and can significantly contribute to participatory data collection [6] towards the implementation of ethical principles of Human-centered AI (HCAI) and practical steps for effective governance in law and security space.

PopAI acknowledges the role and power of civil society, general population, new citizens and LEAs to generate consolidated spheres of knowledge both from a theoretical and practical level.

In this context the power of visual storytelling is explored by providing civil key actors the potential to provide visual input (photos) labelled by captions that connote the challenges and opportunities of AI. The student photo and caption competition were organized mainly in alignment with the aforementioned notion to engage civil society in order to raise the awareness of the public for the use of AI in the security domain, capture emergent concerns and potentials and guide mechanisms and practical methods.



## 2.2 Student Photo & Caption Competition Design & Implementation

Designing and implementing a photo competition with focus on AI by LEAs was a challenging and demanding process for both the organizers and the responsible team as well as the participants.

The main challenges for the organizing team were a. to guide in a clear way the participants on practical issues concerning the participation and b. frame the thematic focus of the photo competition.

Moreover, in order to run effectively the photo competition, the organizing team has to determine the goals of the contest and envisage the benefits.

The main goals of Student Photo Competition were to trigger civil communities to reflect their concerns, opinions, and ideas around AI, ethics, and policing data, express their perspectives concerning human-centred and socially driven AI tools in support of Law Enforcement. Last but not least, provide the opportunity to suggest best practices for the use of AI in benefit for the society.

The outputs of the photo contest were anticipated to include a practical set of insights driven from different disciplines that will allow the security sector to be better equipped to plan, develop and implement a human-centred and socially driven AI successfully and responsibly.

To guide properly entrants in the photo competition topics, some indicative and thematic photos have been provided in the popAI competition website (Figure 1).



Figure 1: Indicative thematic areas & photos

Among the anticipated benefits were to draw from the photo competition results realistic and unknown considerations about AI technologies and controversies concerning law Enforcement which is in the spotlight in AI "surveillance".

Moreover, given that civil society's perception and awareness has rapidly increased during the last decade with respect to sensitivity given the AI popularization through search engines and social media controversies, it was considered a significant opportunity to engage civil communities to AI use by Law Enforcement Authorities (LEAs). The lack of clarity, transparency and concrete regulatory



framework stirs justifiable reactions from multiple societal stakeholders and in light of photo competition, contest participants could contribute by providing their perceptions through their creative artefacts about issues of gender, justice and security.

Participants had to cope with the difficulty to provide a creative product (outcome) depicting on it their critical assessment and uncover key concerns about artificial intelligence and the security domain ecosystem. Another issue that participants had to cope with was to pair the abstract notion of photo with a description (caption). Each artifact has to convey potential ethical and privacy threats and considerations related to AI in policing use cases.

Therefore, despite the flexibility to submit a number of images and paired captions about digital policing and AI, participants had to be on track with the main thematic areas whilst also providing photos that could inspire creatively the audience and transfer useful messages about AI and policing data.

### 2.2.1 Identifying photo competition stakeholders

Among the main challenges of photo competition organization was to identify and engage the right societal groups and stakeholders, which could offer relevant and valuable opinions in raising consciousness about the controversies of AI.

To this end, CERTH as the leader of D.3.6 task in close collaboration with other partners (ZANASI, Demokritos and Trilateral Research) set up the means for the photo competition dissemination.

Initially, the main categories of scientific fields have been recognized as most relevant: STEAM technologies, Social Sciences and Humanities.

Faculties and Education areas have been included as main areas of interest for participation in popAI competition. Indicative samples of university departments are quoted in the table below (Table 1):

Faculties/Education areas	Science and Technology	eDemocracy
Faculty of Health Sciences	Health Sciences and Engineering	Social innovation
Faculty of Humanities	Artificial Intelligence	Device Fabrication and on-site Testing
Faculty of Business	Science and Technology	Energy Economics and Policy
Social and Human Sciences	Health and Medicine	Renewables and Trans- portation
Engineering education	Technology-enhanced learning	Engineering, Life Sciences
Manufacturing and ICT	Digital Humanities	Journalism & Mass com- munication
Science, Engineering and Hu- manities	Biomechanical Sciences	Computer Science

Table 1. Indicative samples of universities	departments
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Overall, the main societal groups that participated on Student Photo and Narrative Caption Competition were students from European universities.



#### 2.2.2 Tracking the success & impact of Student photo and narrative caption competition

From the early beginning of photo competition design, among the main considerations of D3.6 task responsible was to define some metrics that would provide useful insights into the results of the photo competition.

Some metrics that have been defined were the following:

- Total number of submissions
- Number of valid submissions
- Number of eligible entries
- Extent of general audience (e.g., social media etc.) engagement.

#### 2.2.3 Disseminating Student Photo Competition & Narrative Caption

In the context of photo competition dissemination and promotion, popAl consortium acknowledged that running a photo contest is also a marketing strategy in itself (Figure 2).



Figure 2: popAI website

Therefore, apart from the use of traditional media and email marketing, which remains a powerful marketing strategy, also more interactive means as a dedicated website, social media and a platform were used for contest announcement and dissemination.

In particular, iterative emails have been sent to international and Hellenic Universities Secretary Offices while the event has been posted on CERTH's social media accounts. Also, another mean that has been used was to exploit personal contacts and post the competition to Universities' websites (e.g., website of the University of Macedonia, the Department of Applied Informatics, and more specifically in the Business Strategy and Innovation session).

CERTH disseminated the event to technical, polytechnic and social sciences departments (around 320) of the following universities. Indicatively Universities' departments from Greece are quoted in the table below (Table 2):

Aristotle University of Thessa-	National Technical University of	National and Kapodis-
Ioniki	Athens	trian University
University of Athens	University of Macedonia	University of West Attica

#### Table 2. Indicatively Universities' departments from Greece



Democritus University of Thrace	University of Western Macedonia	University of Ioannina
University of Thessaly	University of Crete	School of Fine Arts
Ionian University	University of the Peloponnese	International Hellenic University
University of Patras	National Technical University of Athens	Technical University of Crete
Panteion University of Social and Political Sciences	University of Piraeus	IEK Delta 360

## 2.3 Students' and citizens' engagement in popAI photo competition

In the context of popAI Student Photo Competition, a recruitment plan was scheduled and applied to invite students from European Universities around the world to reflect with a photograph and short narrative caption on the ethical issues related to different AI and policing controversies.

The members of the Ethical Board supported the engagement process whereas the evaluation process was supported by SAB.

Also, to provide more insights on the values of the photo competition, a concrete frame has to be provided about the thematic context and the guidelines for the participation and submission of photo completion and caption. In addition, participants could find clear and comprehensive information on the photo competition website about:

- Student Photo & Caption Competition Organizers
- Fair and Equal terms of participation for all candidates
- The content and context of photos
- Details about the photo competition
- Information about the thematic areas
- Submission requirements
- Details about the award

## 2.4 Criteria of photo competition participation & evaluation

Every participation had to be in alignment with concrete criteria before it was sent for evaluation to the Advisory Board members. A ranking list had been assembled with all proposals that score above the thresholds (6 out of 10 in each individual category).

## 2.5 Photos and narrative captions' general & specific guidelines

In terms of the popAI photo contest, specific rules have been defined for the content and context of the candidate photo.

Upon entering the contest, participants certify that subjects were treated with respect and dignity, and that no people, wildlife or the environment were harmed in creating a photograph. Participation on the photo competition is voluntary.

Concrete guidelines have also been defined to frame the depiction of abstract thought in a photo:



- All photos should have at least one thematic focus
- All captions should be written in a clear format and language including the main keywords that detail each photo interpretation. Maximum characters: 500.
- Behind the caption a more descriptive paragraph to indicate accurately the link between the notion of the user and its depiction (translation of abstract thought to a photo).
- New citizens' perceptions: at least one feature of the photo should be linked with a fresh look at technology use in policing data.
- The outputs of the photo contest will include a practical set of insights driven by different disciplines that will allow the security sector to be better equipped to plan, develop and implement a human-centred and socially driven AI successfully and responsibly.

Furthermore, specific rules had been defined according to the content and context of the photo that each participant has to upload.

- The photo had to be an original creation. No copyrighted images were permitted. The participant had to certify and warrant that the submitted photo does not violate the rights of a third person/party or any copyright
- Any entries deemed offensive were immediately disqualified
- Any material that could constitute or encourage conduct that would be considered a criminal offence, give rise to civil liability, or otherwise violate any law is not permitted
- Illustration of persons had to be voluntary.
- Submitted photos shall not violate any person's rights of data protection, privacy or publicity or any other rights.
- Participants must have obtained the explicit consent of any persons represented in the photographs for use of the photographs by the popAl's organizer for all purposes related to the competition and explicitly inform them about their right to withdraw their consent at any time.
- Upon entering the competition, participants certify that subjects were treated with respect and dignity, and that no people, wildlife or the environment were harmed in creating a photograph.

## **2.6 Technical specifications**

In the context of the Student Photo and Caption Competition, concrete technical requirements had to be followed with respect to image/photo file (e.g., jpg, png), and words' limit in the textual information of title and caption (Table 3).

Photos' Specifications	Examples
Image File (file type, resolution, size)	e.g., jpg, png

#### Table 3. Technical specifications for photo & caption submissions



#### D3.6: Photo Competition Results

Photo Title	Max = 100 characters
Photo Caption (a narrative description of the up- loaded photo)	Max = 500 characters
Capture Date(optional)	e.g., full ate xx/xx/xxxx
Photography Technique (optional)	e.g., high-speed, tilt-shift, motion blur, etc
Camera Type (optional)	e.g., mobile photo DSLR, etc

## 2.7 Ethics & legal guidelines

In the context of Student Photo and Caption Competition terms, conditions and rules were in compliance with ethical and legal principles such as the lawful, fair and equal participation of all participants in popAI Student Photo and Caption Competition. According to the competition rules all students at European universities from any discipline, i.e., STEM, Humanities, Social Studies, and any level of higher education, i.e., bachelor's, master's, PhD, could submit an application.

Moreover, popAI advisory board members were in charge of photos and captions' evaluation. In order to provide transparency in the evaluation process it has been determined that winners' names will be displayed both within the universities and on the popAI's website.

It is also worth noticing that the content of "Terms, Conditions and Rules" for popAl Student Photo and Caption Competition, as well as the Privacy Policy of the photo competition, have been reviewed by the members of EAB, chaired by Professor Lilian Mitrou, before being displayed in the website of the photo competition.

Also rights and ownership are part of the ethical and legal process while running an open competition. To ensure participants' rights concrete guidelines have been incorporated in "Terms, Conditions and Rules for popAI Student Photo and Caption Competition" as quoted below:

The participants shall be the sole owner and author of the photographs. By submitting the photos, participants agree to grant CERTH free of charge the right to use the photo in any manner and media, including without limitation, the right to publish, adapt, distribute copy, display or translate in printed or electronic media even if they are not the winning entries. Photographs shall bear the author's name.

CERTH reserves the right to modify or cancel the competition or any of the arrangements, schedules, plans or other items directly or indirectly related to the competition, at any time and for any reason if deemed necessary.

The present photo competition has been designed based on ethical considerations as have been approached in similar global photo competitions and relevant literature [7].

Ethics of photos are related to issues of with issues of consent, motives, respect and portrayal of subjects have been taken into high consideration [8], [9].



In alignment with the aforementioned considerations, ethical values and guiding principles have been defined as follows:

- 1. Respect to terms, conditions and rules of the Student Photo and Caption Competition
- 2. Each participant should respect and adhere to competition terms, conditions and rules as have been defined. Each participant should indicate consistency to the technical specifications/requirements (with respect to image/photo file (.jpg, .png, etc., and words' limit in the textual information of narrative caption (link to a pdf with photo technical specifications), in order to consider a submission valid.
- 3. The organization team will indicate consistency in the implementation of these rules/terms/conditions.
- 4. Respect for the dignity people concerned while creating and displaying snapshots/images.
- 5. Avoid images and/or messages, narrative descriptions that could cause any offence or hurt.
- 6. Consider and esteem the equality of all people while creating and displaying snapshots/images.
- 7. Conform to standards in relation to human rights and protection of vulnerable people.

Moreover, each photo had to be in compliance with the following requirements:

- Maintain originality and integrity of the photographic images' content and context.
- In case **public photos are used as sources** for the outcome, each participant's **references should be added as a comment in the narrative caption** to indicate respect for Intellectual Property Rights (IPR).
- **Context and content that are offensive** or not relevant to the original (main) purpose of the photo competition as described on the first page of the website are out of the scope of the competition and will be rejected.

#### 2.8 Platform Development

The platform that is developed in the context of the photo and caption competition can be separated into three main components the back end, the front and a MySQL database. The backend of the AcadeMe is written in python using the Flask framework. Flask is a web framework; it's a Python module that is used to develop the popAI web application. It's a microframework that doesn't include an ORM (Object Relational Manager) or such features. Flask is based on the Werkzeug WSGI toolkit and the Jinja2 template engine. The Web Server Gateway Interface (Web Server Gateway Interface, WSGI) has been used as a standard for Python web application development. WSGI is the specification of a common interface between web servers and web applications. Werkzeug is a WSGI toolkit that implements requests, response objects, and utility functions. This enables a web frame to be built on it. The Flask framework uses Werkzeug as one of its bases. In the following table (Table 4) the main libraries of the python backend are listed.



Name	Version	Description
Flask	2.0.1	Flask is a lightweight WSGI web application frame- work. It is designed to make getting started quick and easy, with the ability to scale up to complex applica- tions.
Flask-Cors	3.0.10	A Flask extension for handling Cross Origin Resource Sharing (CORS), making cross-origin AJAX possible.
Flask-JWT-Extended	4.2.1	Flask-JWT-Extended adds support for using JSON Web Tokens (JWT) to Flask for protecting routes.
Flask-SocketIO	4.3.1	Socket.IO integration for Flask applications.
mysql-connector	2.2.9	MySQL Python client library to integrate MySQL into Python scripts and applications.

For the front-end of the web application the Angular framework was used. Angular is a platform and framework for building single-page client applications using HTML and TypeScript. It implements core and optional functionality as a set of TypeScript libraries that can be imported into the applications. In order to implement the web application, the **PrimeNG** library was used that is a collection of rich UI components for Angular. It contains over 80 native html components that are easy to use. PrimeNG allow developers to put the main effort in the business logic rather than creating complex UI requirements.

#### 2.8.1 User Interface Implementation

The user interface of web application that is developed with the Angular framework consists of one landing page where the user is able to see the description of the competition as well as the steps that need to follow in order to participate in the photo competition as it is shown in the image below (Figure 3).



	<b>POPAI</b>	
	popAI - Student Photo & Caption Competition	
	The popAl project is organising a Student Photo & Caption Competition to engage and hear from young citizens how Artificial Intelligence is and/or should be used in civil security domain. Sharing opinions and visions through photos is considered an easy and interactive means for cross-country exchange.	
	Students from diverse disciplines and academic backgrounds are invited to reflect on concerns around justice, gender, inequalities, and race and how they understand their connection to Artificial Intelligence	
	How to participate in the Student Photo & Caption Competition?	
	Step 1	
	Register to the application in order to get a token for the competition.	
	Step 2	
	Prepare your photo and the caption.	
	Step 3	
	Upload your Photo in order to complete your participation in the competition.	
$\mathbf{N}$		

Figure 3. Landing Page of the Web Application

	DODAL		
Fullname Nick Warren	popAI - Student Photo & Caption Competition	8	
E-mail nick_warren@gmail.com			
University/Organisation Aristotle University of Thessaloniki		X	/
Education Field STEAM (Science, Technology, Engineering, Arts and	Mathematics)		•
I have read and accept the Terms of Use and Priv	acy Policy of the popAI's Student Photo & Caption Competition.		
		Back	Get a Token
			1

Figure 4. Registration View of the Web Application

The steps that need to be followed are three. Initially, the user has to register to the application in order to get a token for the competition. This step is illustrated in the image above (Figure 4), where the user has to fill in the form with their name, email, the university/organization that they belong and their education field. It is necessary to accept the terms of use and the privacy policy of the application.

Finally, they press the "Get a Token" button in order to complete the registration and receive the registration token to their email. In the following figure, the specific email is shown.





Figure 5. Content of the email for the participation token

Once the user has done the registration, the have to prepare the photo using their tools and when they are ready, they have to upload it in the platform as it is shown in the following image (Figure 6).

		popAl - Student Photo & Caption	Competition		IVVI //
-	Your token CDCFSKDLKL	Photo Title This is a title			
	Photo Caption Lorem ipsum is simply dummy text of fl when an unknown printer took a galley electronic typesetting, remaining essen and more recently with desklop p	the printing and typesetting industry. Lorem Ipsum of type and scrambled if to make a type specimer titally unchanged. It was popularised in the 1960s	has been the industry's standard dummy text ev book. It has survived not only five centuries, bu with the release of Letraset sheets containing Lo	ver since the 1500s, it also the leap into orem lpsum passages,	1 11 1
/	Capture Date (optional) 3/8/2023	Camera Type (optional)	Photography Technique (optional)		
	0.0102020				
1	forest.jpg				
• •	Lhave read and accent the Terms of Like a	and Prozery Policy of the nonAl's Student Photo & Cantin	a Competition	•	1111
		ana <u>Litisey, Lisey</u> of the poper S diudent Photo & Capito		Back Upload	

Figure 6. Upload Photo View of the Web Application

The necessary field in this form are the token that they received via email, a title for the photo, a caption that describes the concept and the content of the photo. Moreover, the user has to select the photo that will participate in the competition and accept the terms of use and the privacy policy. Optional information that can be add for the photo is the capture date, the camera type as well as the photography technique.

#### 2.8.2 Back-end Implementation

Three main services have been developed in the backend in order to serve the functionalities of the UI. More specifically the Register Participant service that is described in Table 5, is a POST method that takes as input the name of the participant, their email, their organization and the education field. This service produces the user token that is sent via email to the user.

#### Table 5. Register Participant Service

Title: Register Participant	
-----------------------------	--



URL:	/popaiAPI/register_participant
Method:	POST
URL Params:	
Data Params:	{"name": <string>, "email": <string>, "organisation": <string>, "field": <string>}</string></string></string></string>
Response Code:	Success (200 OK), Bad Request (400), Unauthorized (401)

Additionally, the Update Participant service is used when the user uploads a photo in order to write to the database the title, the caption, the photography technique, the camera type the capture date and the filename of the photo based on the provided token (Table 6).

Title:	Update Participant
URL:	/popaiAPI/register_participant
Method:	POST
URL Params:	
Data Params:	<pre>{"token": <string>,   "title": <string>,   "caption": <string>,   "technique": <string>,   "camera_type": <string>,   "capture_date": <string>,   "filename": <string>}</string></string></string></string></string></string></string></pre>
Response Code:	Success (200 OK), Bad Request (400), Unauthorized (401)

#### Table 6. Update Participant Service

Finally, the Upload image service is used in order to upload the photo to the platform. This service takes as URL parameter the user token and as data parameter the file that will be uploaded (Table 7).



#### Table 7. Upload Image Service

Title:	Upload Image
URL:	/popaiAPI//upload/token/ <string:token></string:token>
Method:	POST
URL Params:	token: <string></string>
Data Params:	{ "image": <file> }</file>
Response Code:	Success (200 OK), Bad Request (400), Unauthorized (401)

#### 2.8.3 Photo Competition Implementation planning

This subsection provides an overview of the tasks planned for the design and implementation of the photo competition (Figure 7). The plan is separated on five (5) phases (Figure 8) each phase includes certain tasks according to the description of T3.6 Student photo competition and narrative caption. The first phase starts from M10-M12 and includes tasks related to photo competition platform's back-end and front-end development (web page design and development). The platform was developed at M11 and was online at M12.

Phase 2 (M13) concerns the development of photo competition platform and web page. Proper Refinements of the platform have been made at M13. Furthermore, in this phase Privacy policy and Terms & Conditions receives ethical approval from popAI Ethical Board.

The third phase of planning concerns photo competition opening and running (M13-15). In the fourth phase (M17-18), photo competition ends. In the final phase the overall assessment of the photo competition results (e.g., evaluation of valid and non- valid submissions) started. Within this phase, the SAB (Stakeholders' Advisory Board) conducted the voting process in alignment with the defined criteria, requirements and specifications. This phase also includes finalization and submission of the deliverable D3.6 "Photo Competition Results".



#### D3.6: Photo Competition Results

Tasks	M9	M 10	M 11	M 12	M 13	M 14	M 15	M 16	M 17	M 18	M 19	M 20	M 21	M 22	M 23	M 24	M 25	M 26	M 27	M 28	M 29	M 30	M 31	M 32
Photo Student Photo Competition platform development (back- end and front -end)																								
Photo competition platform and web page design and implementation. Ethical approval of Privacy policy and Terms & Conditions. Updates in the web page presentation																								
Photo competition opening and running																								
Photo competition ends. finalization and assessment. Voting process and results' announcement																								
Photo competition finalization and assessment. Voting process and results' announcement	014																							

Figure 7: Phases of tasks for the photo competition by month (M).

A roadmap has been provided as a guiding tool for the timely and qualitative implementation of planned activities for the photo competition. (Figure 8).

## Roadmap of popAI photo competition



Figure 8: Visualization of the first 4 phases of the photo competition.



## 3 Methodology

In the context of photo competition purpose, the following procedure was followed:

- a) **Network Setup**: To ensure a successful photo competition, it was important to establish a network of academic and civil communities. This network was consisted of individuals and organizations that had a shared interest in the theme of the competition. By bringing together a diverse group of stakeholders, the competition could reach a wider audience and attract a variety of perspectives and ideas.
- b) Development of Sustainable Community: One of the key activities of Work Package 5 (WP5)

   Dissemination, Communication, and Sustainable Community was to create a sustainable community that could host the photo competition. This community was designed to engage participants, provide support and resources, and facilitate communication throughout the competition.
- c) Website Development: A website was developed to provide information about the photo competition, including the requirements and the information needed. The website also provided a platform for participants to submit their photos, as well as a way for judges to evaluate and score the submissions. The website had to be easy to navigate and be user-friendly to encourage maximum participation.
- d) **Participants' Engagement**: To encourage engagement and participation, outreach efforts were made to reach out to potential participants and promote the competition through various channels such as social media like LinkedIn and Twitter. The competition was open to individuals of all skill levels, and participants were encouraged to submit photos that capture the essence of the theme in a creative and original way.
- e) **Final Evaluation and Display**: After all submissions were received, the judges were provided with a voting-link, which allowed them to participate in the voting process. They evaluated each photo based on pre-determined criteria such as excellence, relevance, and impact. The judges then submitted their votes for each photo. Once all the votes were collected, the final tally was used to determine the winners. The top three winners were awarded a prize of 250 euros for the first winner, 150 euros for the second winner, and 100 euros for the third winner, respectively.

## 3.1 Content of website & Platform

In order to enhance participants' enrolment, the webpage had to be designed upon a number of requirements:

- i. The content of the website had to be comprehensive and easy to understand as well as motivating and attractive as possible: The website's content provided all the necessary information about the photo competition, including the theme, rules, and guidelines for submission. It was easy to understand and navigate, with clear instructions on how to submit entries and what criteria would be used to judge them.
- A banner with image(s) on the landing page was prepared: The landing page of the website included a banner with eye-catching images that represented the theme of the competition. The images were visually appealing, attracting the attention of potential participants. The banner also provided a clear message about the competition and its purpose.



#### D3.6: Photo Competition Results

iii. More technical details such as website functionality, mobile responsiveness, and user interface: The website was designed to be user-friendly and accessible from various devices, including desktops, laptops, and mobile devices. It had clear navigation and was easy to use, with intuitive user interface (UI) design. The website's functionality included features such as the ability to upload photos, view submission guidelines, and track the progress of the competition. It was also designed to be mobile-responsive, allowing participants to access the website from their smartphones or tablets.

### 3.2 Poll unit design and voting guidelines

As part of the evaluation process for the Student Photo and Caption Competition, the Stakeholder Advisory Board (SAB) of the popAI project evaluated all photos that were submitted. In the context of the photo competition evaluation process an on-line voting poll had been designed by CERTH to host the evaluation process. In the voting poll all valid photos have been uploaded (Figure 9). Afterwards concrete voting guidelines have been sent to SAB members for registration to poll-unit platform and voting.

SAB members had to follow the steps quoted below in order to vote:

- Follow the link: SAB members were provided with a unique link to access the voting platform, which was hosted on the website PollUnit. This <u>link</u><sup>i</sup> directed them to the specific poll for the photo competition.
- II. Login with email and code: To access the poll and begin voting, SAB members were required to log in using their registered email and unique code. This ensured that only authorized members could participate in the voting process.



Figure 9: Main page of the Poll-unit platform

III. Proceed to an overview of all photos and the corresponding titles and subtitles: Once logged in, SAB members were directed to an overview of all the photos submitted for the competition. The overview provided a preview of each photo, along with its corresponding title and



subtitle. This allowed the members to quickly browse through all the submissions before beginning the voting process.

IV. Click upon each photo and see all the categories: SAB members were then directed to click on each photo to view its details, including the categories for which it was being evaluated. The five categories for which each photo was evaluated were Excellence, Relevance, Impact, Sustainability and Description (Caption) Relevance.

Once SAB members evaluated each photo based on the four categories, they were required to assign a score to each category for that specific photo. They were asked to consider the specific criteria for each category while assigning the score. The scores ranged from 1 to 5, with 5 being the highest score. After assigning scores to all four categories, the SAB member could then submit their final vote for that specific photo.

## 3.3 Voting criteria

To ensure consistency and fairness in the evaluation process, each member of the SAB was asked to vote based on a set of pre-determined criteria. These criteria were carefully chosen to reflect the goals of the competition. By using a standardized set of criteria, SAB members were able to evaluate each photo in a consistent and objective manner, which helped to ensure that the winners were selected based on the quality of their submissions rather than subjective opinions or personal biases (Figure 10). Specifically, the criteria for evaluating each photo were:

- 1. **EXCELLENCE:** relevance to the topics addressed in the context of the popAI project (**Max. 10 points**):
  - Does your photo and complemented caption fulfil the requirements of the specific task?
  - How challenging/interesting is the idea depicted in the photo and how well it is elaborated through the provided caption?
  - What is the value of photo and the caption for the popAI project in overall?
- 2. **RELEVANCE:** relevance with the key thematic areas (Justice concerns, gender, race, and inequalities) (**Max. 10 points**):
  - How strongly are connected to policing data and AI
- 3. **IMPACT:** potential impact through the participation, dissemination, and use of contest results. (Max. 10 points)
  - Who will benefit from your idea and how?
  - Do you plan to implement your idea in other contexts and why?
- 4. **SUSTAINABILITY:** commitment to long term vision and sustainability of the popAI project (Max. 10 points):
  - In which ways can your vision behind the photo submitted contribute to further maturing popAI?
- 5. **DESCRIPTION (CAPTION) RELEVANCE**: relevance to the title and the topic selected (**Max. 10 points**)





Figure 10: PollUnit voting categories

## 2.4 Ethics guidelines and compliance with law

A privacy policy for popAI, has been prepared to describe the policies and procedures on the collection, use and disclosure of participants' information. The privacy policy takes into account the requirements of the General Data Protection Regulation (GDPR), which is a comprehensive data protection framework that applies throughout the European Union. popAI will ensure that any personal information collected from participants by CERTH is handled in accordance with the GDPR and other applicable data protection legislation.

In addition to complying with data protection requirements, popAI is committed to upholding high ethical standards and complying with all applicable laws and regulations related to the collection, use, and disclosure of personal information in the context of AI and law enforcement.



## 4 Results of popAI competition

The popAI photo competition attracted submissions from people from a diverse group of individuals from different age groups and geographical backgrounds. The competition entries were evaluated based on five (5) criteria presented in the previous section. The section aims to provide a rigorous and informative analysis of the competition results, including the presentation of the photos, interpretation of the submitted photos, and statistical demographic data. This analysis can be used to see how people perceive the use of AI in law enforcement and the safeguarding of privacy.

## 4.1 Presentation of photos and narrative captions submitted

This section presents a selection of photos and their paired narrative captions submitted to the photo competition. The photos cover a range of themes related to the use of AI in law enforcement and privacy protection, including surveillance, facial recognition, and data privacy [10], [11]. The accompanying captions offer valuable insights into the thought processes and intentions behind each entry, and highlight the photographers' perspectives on these important issues.

Overall, the photos submitted to the competition demonstrate the power of photography as a medium for raising awareness and stimulating conversations about complex social issues. Through the use of visual storytelling, the photographers have conveyed their concerns and opinions on the use of AI in law enforcement and the safeguarding of privacy, providing a unique perspective on these important topics [12], [13]. An indicative photo is illustrated below (Figure 11).



Figure 11: Technology calls to technology everywhere

The story telling (description) behind this photo is the following: "Between the shadows of history figures, a police man is quietly doing his duty. Hundreds of faces are walking in front of him, while he carefully analyses each one of them, long before an A.I. could. His gaze travels across the lenses, making the viewer feel like a part of the crowd who walked that day in the Parliament Square. In the background, Millicent Fawcett holds a banner reading "Courage calls to courage everywhere", in a time in which "Technology calls to technology everywhere".



Figure 12: Validity in AI

The creator of this photo (Figure 12) provided the following description:

*"Evidences define the context and functions of processes, maintain the criteria of realisation, affecting the interaction and adaptation, and changing and evaluating collective change.* 

Common evaluation criteria, objective determinations, and possibility of free interconnection lend validity to potential outcomes and shape stable frameworks of development, evolution and progress variables".

In addition, environmental landscapes (Figure 13) have been used in the context of the Student Photo Competition.



Figure 13: Landscapes that competed in the photo competition

The latent meaning of AI use has three aspects (superficies): light, darkness and beauty. It depends from the view and the use.





Figure 14: Unobtrusive monitoring

Another photo (Figure 14) raise concerns about the unobtrusive monitoring of individuals in public places, such as museums, through the use of AI and surveillance technologies [14].

The photos and captions submitted to the competition have effectively communicated complex social issues related to surveillance, facial recognition, and data privacy through visual storytelling. The competition has demonstrated the power of photography to raise awareness and encourage discussions on important topics. The diversity of themes and perspectives highlights the need for ongoing ethical considerations of AI in law enforcement and privacy protection.

## 4.2 Interpreting the submitted photos and narrative captions

After receiving the results of the Student Photo and Caption Competition, an initial attempt was made to analyse the submitted photos and narrative captions at a conceptual level. The analysis focused on (a) the thematic focus of the artifacts, (b) the depth of the artistic perspectives, and (c) potential common ethical and legal concerns in the AI and law enforcement landscape.

The thematic topics that have been leveraged through photos are quoted below:

- Al technology and applications' potential to augment human capabilities, support the analysis of big data, identify patterns that might be difficult for a person to discern and assist the critical decision-making process
- The act and role of policing has been acknowledged as a complicated and demanding task, as algorithmic data and machine learning vs human judgment, reformulate the final decision and raise unknown threats. Similar concerns demand a more balanced, inclusive, and equal security environment for civil communities.
- Face recognition is among the main considerations of AI use, thus additional measures of AI functionalities should be enabled
- From a more professional point of view, AI governance could be effective but at the same time should raise concerns about individuals (humans) autonomy
- Gender issues is also main concern: Women active in AI research have to fight also with gender inequalities
- Nostalgic moments of traditional scenes in the new era of AI, everything comes with a price



It is also worth noticing to interpret the photos in correlation with creators' demographical data and scientific background. Therefore, participants from STEAM sciences as it was anticipated seems to experience in a deeper manner the ethical implications and moral questions that arise form AI development and implementation.

## 4.3 Statistical & demographical data

The competition had a total of 50 participants, and interestingly, the majority of them (68%) belonged to STEAM disciplines, while the remaining 32% were from Social Sciences and Humanities (Figure 16). This indicates that participants from fields such as science, technology, engineering, art, and mathematics showed a greater interest in photography than those from other disciplines. The organizations represented by the participants were primarily from the University of Macedonia and the University of Sheffield, along with several other academic institutions.

Gender disparity was a noteworthy aspect of the data, with a significant majority of female participants, accounting for 72% of the total number of participants (Figure 15). This finding highlights the underrepresentation of male photographers in the competition and possibly, the field of photography as a whole [16].



Further analysis of the data showed that the most common camera type used by participants was a DSLR, while the most common technique employed was Black & White. Overall, the data provides valuable insights into the demographics and preferences of participants in this particular photo competition.



## 5 Student Photo Competition Voting Results and Winners' announcement

An open online vote has been set up and the members of the SAB are assigned of the popAI consortium to vote in accordance with the five criteria of voting process: 1. EXCELLENCE 2. RELEVANCE 3. IMPACT 4. SUSTAINABILITY 5. DESCRIPTION (CAPTION) RELEVANCE. SAB activities and mission are reported in the GA of the project, Section 3.2.1 "Management structure". This open online vote will decide the 3 winners of the Student Photo and Caption competition and narrative caption.

pop AI set up an Advisory Board with the aim to facilitate and extend cooperation with stakeholders of the project results. The SAB is composed of experts or organisations with the main aim to provide additional expertise and benefit from the practical field expertise and know-how of experts from additional countries, stakeholders and user organisations. The SAB allows getting an independent external view, whilst enabling for flexibility in the composition of the expert group. Photo and narrative captions are evaluated according to the eligibility criteria, the ranking list and the thresholds. The voting process started from the 17th of March until Wednesday the 22nd of March.

Also, CERTH team as leader of T3.6 provided some guidelines to SAB members in order to facilitate their navigation and voting in the PollUnit.

During the voting process, each member votes according to each criterion and at the end, a final outcome of the evaluation is provided by the poll-unit platform (Figure 17).



Figure 17: Example of image rating on the PollUnit platform.

Notifications on success or rejection are scheduled to be announced in early April, whilst the best three (3) photos submitted by young photographers will receive the prizes.

It is remarkable that among the challenges was the way that all participants should be notified by email. Taking into account GDPR guidelines, any disclosure of personal information is avoided.

Therefore, for privacy reasons, the blind carbon copy (bcc) feature is used to send this email to the list of participants. Also concerning the photo competition results and awards that be notified in the project website, only winners' photos and voting results will be announced, without revealing any personal information.

### 5.1 Winners' announcement

The responsible organizing team of the photo competition initially had to ensure that submissions would close precisely at the deadline in order to inform through the contest website all entrants about winners' selection. In alignment with photo competition ethical guidelines, deep considerations had been raised also for indicating respect to participants and communities' artefacts and documentations (narrative captions). To this end, it was considered critical to thank all participants for their participation regardless of the awarding results.

It can be especially discouraging for contestants to be informed publicly about the winner announcement albeit their entry was still in-progress.

SAB evaluated the variety of perspectives provided from diverse scientific fields; three (3) photos are awarded as defined from the terms, conditions and rules of the early beginning of the contest organization. The awarded works presented invaluable insights and complementary descriptions in respect to the undeniable effects of emerging AI tools and applications in support of law enforcement.

The photo that received the **higher points** in each criterion as an average outcome of all SAB members was the photo entitled "Title: Unobtrusive monitoring" with Subtitle: "Unobtrusive monitoring in public places, such as museums" (Figure 14).

It was of high interest to analyze form the contest database also the demographic data of the creators who had been awarded. According to voting results' the **1**<sup>st</sup> **winner** is a student from of Social and Political department from a Greek university. The photo illustrates the internal place of a museum, two display items and the shadow of a theft of cultural heritage exhibits. Also, a monitoring camera is placed nearby the exhibits. From the narrative caption, the main concern of the photo creator is the unobtrusive monitoring in public places such as museums through the use of AI and surveillance technologies. The challenge behind this photo was that it portrayed the controversies over the use of monitoring methods to protect cultural property from potential destruction or theft.

The **2nd winner** was the photo entitled "Technology calls to technology everywhere" with subtitle "Between the shadows of history figures, a police man is quietly doing his duty. Hundreds of faces are walking in front of him," (Figure 11). The 2<sup>nd</sup> winner is a student from of Social and Political department from a Romanian university.

Concerning the thematic focus of the photo, human Rights and other fundamental values such as gender equity and democracy will always be the endpoint for societies in either traditional or AI enabled contexts. This photo illustrates through a traditional mean, a banner, the topic of suffrage



#### D3.6: Photo Competition Results

movement, which was documented by a Suffragist leader Millicent Fawcett. At the same context, law surveillance long before AI could be unobtrusive and transparent as should be also in the context of AI use.

The **3rd winner** was awarded to the photo entitled "AI Face Recognition" with subtitle: AI Face Recognition should be user-friendly, secure and transparent (Figure 18). The creator of this photo is from STEAM technologies.

Regarding the topic that had been selected and illustrated, it concerns AI enabled facial recognition which raises particularly difficult ethical challenges. Facial recognition technology (FRT) is coveted as a mechanism to address the perceived need for increased security. However, the lack of both transparency and lawfulness in the acquisition, processing and use of personal data can lead to physical, tangible and intangible damages, such as identity theft, discrimination or identity fraud, with serious personal, economic or social consequences [16].



Figure 18: AI Face Recognition



## 6 Conclusions

The present deliverable demonstrates the overall process of the Student Photo and Caption Competition concerning AI use and ethical and legal concerns in law enforcement [17].

In terms of the photo competition, emphasis has been placed in supporting civil participants to understand the main purposes of the competition, provide sound motivations to attract their interest and ensure that competition running and finalization would be in consistency with ethical and legal guidelines such as fairness and equal participation of all candidates. Moreover, close attention has been paid to the wide dissemination through a number of diverse means both traditional and modern.

Photo submissions and their narrative captions are illustrated in the present document for two main reasons: a. demonstrate the outputs of this competition to view the correlation with the initial purposes defined from the onset of the competition b. interpret the latent meanings behind them and unlock the perceptions/opinions of the creators as a valuable feedback to one of the core objectives of the popAI project which is to provide recommendations and best practices towards the use of AI with high benefit for the security and safety of EU citizens.

The part of the results that concern the main outcome of the competition which is the submitted photos with their narrative captions provides also the opportunity to investigate gaps and challenges of AI in law enforcement maximizing the positive sum approach of the project.

It is also of high interest that photo competition results can be interpreted at a multilevel and from diverse viewpoints taking into account a. the scientific background of the participants b. demographical data c. gender issues.

Therefore, participants from STEAM fields as it was anticipated, seem to experience in a deeper manner the ethical implications and moral questions that arise form AI development and implementation. From the other hand participants from SSH conceptualized the notion of the photo competition in a more theoretical and abstractive way.

Integral part of the Student Photo Competition and Caption Competition has been designed and implemented in alignment with ethics principles and rules.

However, running and judging a photo contest entails a number of challenges. Initially students and communities in overall recruitment was a difficult task mainly due to the abstract nature of the thematic focus and secondly due to the incredible diversity of how candidate participants conceived the notion of the competition. For this reason, the deadline of the contest had to be extended in order to achieve the maximum rate of participation.

Even in photos that leverage the same topic, the view of each participant was totally different. Moreover, the stylistic approaches differ a lot whereas the narrative captions have been approached also in an individual-centred manner, given the scientific background of each participant. Another obstacle was that once all the photos have been submitted, a filtering should be conducted to remove the invalid participations.

Before, during and after the Student Photo Competition and narrative caption planning and execution important lessons have been learned both from a practical perspective and a conceptual one, concerning the main thematic focus of AI surveillance used by LEAs. AI-based technology entails high



potential and achieved many great things, such as facial recognition. Nonetheless, the low-level of data security, data privacy, could pose significant risks for users, developers, and governments.

Using the visual method of photo to explore and communicate complicated concepts of AI by Law Enforcement agencies entail the power to exchange ideas, knowledge, facts, opinions, and emotions between the creator and the audience [18].

In respect to the methods used for photo competition planning and execution, the main lesson learned during the running and finalization of Student photo competition was that all involved stakeholders should be tightly bounded to the competition guidelines, terms and rules. This method would ensure its implementation and the overall assessment of the work to ensure the expected high-quality results and would be a convenient measure to frame the thematic topics that had been selected and demonstrated.

Also, one benefit of the centralized photo competition platform was that it provided the potential to populate contestant information to multiple people. Furthermore, engagement of photo competition audience was a demanding process despite the collaborative effort of responsible members of the consortium by leveraging online social channels, email list and relevant partnerships.

From ethics lens, the most important lesson was that AI –enabled performance and decision-making mainly in the dynamic context of LEAs should be based on a critical overview and ethically driven practices including issues of informed consent, anonymity, confidentiality, and data sharing.



## 7 References

- 1. Lotfi, F., Beheshti, A., Farhood, H., Pooshideh, M., Jamzad, M., & Beigy, H. (2023). Storytelling with Image Data: A Systematic Review and Comparative Analysis of Methods and Tools. *Algorithms*, *16*(3), 135.
- 2. Rodrigues, R. (2020). Legal and human rights issues of AI: Gaps, challenges and vulnerabilities. *Journal of Responsible Technology*, *4*, 100005.
- 3. Stahl, B. C., Antoniou, J., Ryan, M., Macnish, K., & Jiya, T. (2022). Organisational responses to the ethical issues of artificial intelligence. *AI & SOCIETY*, *37*(1), 23-37.
- 4. Organisation for Economic Co-operation and Development. (2019). *Artificial Intelligence in society*. OECD.
- 5. https://www3.weforum.org/docs/WEF\_40065\_White\_Paper\_How\_to\_Prevent\_Discriminatory\_Outcomes\_in\_Machine\_Learning.pdf
- 6. Berti Suman, A., & Alblas, E. (2023). Exploring Citizen Science over Time: Sensing, Technology and the Law. *Sustainability*, *15*(5), 4496.
- 7. https://global.unc.edu/events/carolina-global-photo-competition/ethical-global-photo-guidelines/
- 8. George, A., Theobald, S., Morgan, R., Hawkins, K., & Molyneux, S. (2015). Snap shots from a photo competition: what does it reveal about close-to-community providers, gender and power in health systems? Human resources for health, 13(1), 1-8.
- 9. https://www.dochas.ie/resources/communications-pe/code-of-conduct-on-images-and-messages/
- 10. Asaro, P. M. (2019). AI ethics in predictive policing: From models of threat to an ethics of care. IEEE Technology and Society Magazine, 38(2), 40-53.
- 11. Belmon, L., Kozik, R., & Demestichas, K. (2021, September). Why do law enforcement agencies need AI for analyzing big data? In Proceeding of the 20th International Conference, Computer Information Systems and Industrial Management, CISIM (p. 331).
- 12. Raji, I. D., Gebru, T., Mitchell, M., Buolamwini, J., Lee, J., & Denton, E. (2020, February). Saving face: Investigating the ethical concerns of facial recognition auditing. In *Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society* (pp. 145-151).
- 13. Feldstein, S. (2019). *The global expansion of AI surveillance* (Vol. 17). Washington, DC: Carnegie Endowment for International Peace.
- 14. Shneiderman, B. (2021). Responsible AI: bridging from ethics to practice. *Communications of the ACM*, *64*(8), 32-35.
- 15. Cabana, P. F. Technical and Legal Challenges of the Use of Automated Facial Recognition Technologies for Law Enforcement and Forensic Purposes.
- 16. Mitra, S., Witherspoon, B. L., & Creta, S. (2022). Invisible in This Visual World? Work and Working Conditions of Female Photographers in the Global South. Journalism Studies, 23(2), 149-166.
- 17. Thiebes, S., Lins, S., & Sunyaev, A. (2021). Trustworthy artificial intelligence. *Electronic Markets*, *31*, 447-464.
- 18. Ahmad Abuarqoub, I. (2019). Language barriers to effective communication. Utopía y Praxis Latinoamericana, 24.



19. Vincent-Lancrin, S., & Van der Vlies, R. (2020). Trustworthy artificial intelligence (AI) in education: Promises and challenges.



## Annex I - Privacy policy<sup>ii</sup> for popAI Student Photo & Caption Competition

This privacy policy for popAI, A European Positive Sum Approach towards AI tools in support of Law Enforcement and safeguarding privacy and fundamental rights, describes our policies and procedures on the collection, use and disclosure of your information in terms of Student Photo and Caption Competition about AI and policing in popAI platform.

Any personal information relating to the participants will be used by CERTH in accordance with the GDPR (EU 2016/679) and applicable data protection legislation.

#### Who is collecting your personal data?

The data controller of popAI Student Photo Competition application, is CERTH/ITI, **Thermi Thessaloniki – Central Directorate** 6th km Harilaou-Thermi Rd P.O. Box 60361 GR 57001 Thermi, Thessaloniki Greece

#### What kind of data do we collect?

In terms of the original purpose of the popAI photo competition the user needs to provide the following personal data:

- His/her email.
- His/her full name.
- The organization that he/she represents (if the user is registering as part of an organization).
  - The education field, selecting one of the two main categories:
    - STEAM technologies.
    - Social sciences and humanities studies.

#### What is the purpose of this data processing?

In alignment with the research objective of popAI, the main purpose of the data processing is to ensure the legitimate and ethically aligned registration and participation procedure of the photo competition, as well as proper communication with the participant.

#### What is the lawful basis for processing your data?

We only rely on your explicit consent as a legal basis for processing your data. You have the right to withdraw consent at any time and we will cease to process data after consent is withdrawn. In that case, please note that the withdrawal of your consent shall not affect the lawfulness of processing based on your consent before its withdrawal.

#### How long do we save your data?

We do not retain your data for longer than necessary for the purposes set out in this Policy. The longest we will normally hold any personal data is until the end of the popAI project, unless a longer retention period is required by law or for the establishment, exercise or defense of legal claims.

#### Will this data be shared?

The collected personal data may be disclosed to third parties, if this is required for the fulfillment of our legal obligations or is necessary for the fulfillment of the above data processing purposes, in compliance with the applicable legal framework. Such disclosure could be made to public authorities and judicial authorities if provided by law or by a court's judgment/order and CERTH's consortium partners.

We will never pass on, sell, rent, or swap your data to other organizations for marketing purposes.



#### How do we protect your data?

We comply with the principles and the legal requirements laid down in the applicable legislation (GDPR and eventually national provisions), and we implement technical and organizational measures to ensure appropriate security of the personal data processed. Our security measures include encryption of data, regular cyber security assessments of all service providers who may handle your personal data, security controls that protect our entire IT infrastructure from external attack and unauthorized access, and internal policies setting out our data security approach and training for employees.

#### What are your rights?

You are entitled to all the rights as described under Articles 15-21 of GDPR. More in particular:

- Right to information: you may request information about whether we hold personal information about you, and, if so, what that information is and why we are holding it.
- **Right to access**: you may access your data and ask for copies of your data whenever you wish to.
- Right to rectification: you may ask us to rectify the information you have provided us in case you consider that something is missing or incorrect.
- Right to restriction of processing: if you consider that your data is inaccurate, that the processing is unlawful, that we no longer need your data, or that you have objections to automated processing, you have the right to request the restriction of the processing.
- Right to erasure: you may ask us to erase your data at any given moment without a specific reason.
- **Right to object:** you may request to stop processing your data and withdraw from the research at any desired moment.
- **Right to data portability:** you have the right to request the transfer of your data to another party or directly to you.
- Right not to be subject to automated individual decision-making, including profiling: you have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning you or similarly significantly affects you.
- Right to withdraw your consent: You have the right to withdraw your consent at any time. We will stop
  processing your data after its withdrawal. The withdrawal of consent shall not affect the lawfulness of
  processing based on consent before its withdrawal.
- Right to lodge a complaint: You have the right to lodge a complaint with a supervisory authority, in particular in the Member State of your habitual residence, place of work, or place of the alleged infringement if you consider that the processing of your personal data infringes the data protection framework.

Please note that the aforementioned rights may be restricted in the light of the GDPR or other applicable data protection legislation.

#### **Changes to this Privacy Policy**

From time to time, we may update Our Privacy Policy, indicating the updated version by an updated 'revised' date. Please make sure to review this Privacy Policy periodically for any changes.

#### Contact

If you have any questions about how we use your personal data that are not answered here, or if you want to exercise your rights regarding your personal data, please e-mail us at popai@iti.gr.

<sup>&</sup>lt;sup>i</sup> https://pollunit.com/polls/amsifyr3jrlkyjf9z1y0cg

<sup>&</sup>lt;sup>ii</sup> Last updated 28 September 2022