EthicAI= LABS

2022

Content

What happened during EthicAI=Labs 2022

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EthicAI=Labs Curator

The second round of the regional project of Goethe-Instituts in Athens, Bucharest, Ankara, Sarajevo, Sofia and Zagreb took place from March to November 2022 and combined online and offline activities. The project aiming to create a cross-genre space for critical conversation on AI and ethics in Southeast Europe had the chance to fulfil this via various actions that help the project fellows to meet in person and to create close contact and collaboration.

Due to the Covid-19 pandemic the first round of the project in 2021 ran entirely online and we experienced big challenges in formation of the project teams and provision of the necessary conditions for fruitful collaboration. Fortunately, in 2022 the pandemic measures were not that limiting and we managed to adapt the format towards the project mission and the lessons we learned during the first year. Some of the actions we kept, like the open call for participation which we spread in the six countries in the region: Greece, Bulgaria, Romania, Bosnia-Herzegovina, Croatia and Turkey. We also kept the interdisciplinary approach bringing together people from the culture, technology and humanity sectors.

This time we addressed the call towards young professionals and students from the respective fields, rather the more established participants we had in the last year. Our idea was to see what the younger generation find interesting and challenging in the project topic which deals with the ethical issues related to the common use of algorithms and algorithmic systems in our everyday life.

Unlike the previous edition, there were no fixed thematic areas for the teams to work on, but rather suggestions for topics that would focus them on the field of interest of the project. Among them were: AI in social media, NLP and new models of AI generated text, Chatbots' role in human-machine communication, Machine learning and bias, AI as a medium in audio-visual arts and Security: AI in the changing definition of privacy.

The big innovation in EthicAI=Labs 2022 was the ideathon we held in Goethe-Institut in Sofia on 27-29 May. This was a three-day event that brought together the selected participants (15 people from 5 countries) and gave them the chance to meet in person, exchange ideas, and share thoughts. The physical contact, time spent together and intensive work during the ideathon really worked out and helped the participants to find the fellows they want to work with and to get to the idea they would research within EthicAI=Labs. In result four teams were formed and started working on the prototype of the project ideas they had to present at the event's final. The teams had the freedom to choose the format in which they would present their idea for a project to be implemented in the next 4 months. The fixed parameters were pitching time (5 minutes) and the criteria on which the ideas would be judged, including concept, relevance to the topic, the idea's potential, the realisation plan, impact, teamwork, feasibility, prototype, and pitch.

Here I would like to highlight the incredible contribution of Yanina Taneva who facilitated the start of networking and team formation. Very organically and easy-going she guided the participants through the process of selecting a team and starting the teamwork, along with that of applying methods design thinking and other instruments and apps to help the participants through the process.

The other very important innovation to the project format was that we had mentorship in the process of teams' collaboration and realisations of their projects. We got to this thanks to the feedback we received from the past fellows during the evaluation

EhicAI=Labs ideathon in Sofia
Photo credit: Iliyan Ruzhin

EhicAI=Labs ideathon in Sofia
Photo credit: Iliyan Ruzhin

session at the end of the first round. Therefore, we decided to invite experts from the three respective fields linked in the project who can contribute to this process. The project mentors are: Mihaela Constantinescu – lecturer in the Faculty of Philosophy, University of Bucharest, and Executive Director of the Research Center in Applied Ethics, Marinos Koutsomichalis – artist, scholar, and creative technologist, who is also a lecturer in Creative Multimedia at the Cyprus University of Technology (Limassol, CY) and Fatih Sinan Esen, who is a computer engineer with a background in Business Administration, currently Scientific Programs Chief Expert at the Scientific and Technological Research Council of Turkey. They played very important role during the ideathon in Sofia when they guided teams work in the process of shaping a project idea, finding the best format for its realisation, and preparing a project prototype to be presented in the pitching session.

At the end of the 24 h ideathon the 4 teams pitched their project prototypes to the jury composed by the 3 mentors. The ideas included a chat bot application, a research paper, and two art installations. After a closely contested judging session, the jury decided that all teams should continue their participation in the project. The jury rated the performance of BlackBoxAI the highest and awarded them an additional amount on top of the grant that all teams received to implement their projects.

The EthicAI=Labs continued with teamwork on the projects, which progress we reviewed during the 3 workshops we ran in June, September, and October 2022. This is another point we kept from the original project format that is an open laboratory for cross-genre experiments. Thus, we encouraged the project fellows to share and elaborate on their understanding and contribution to the research topics in their projects from the point of view of ethics in the context of politics, economics, and culture. Thy had the freedom to find the best format of their collaboration and teamworking on the project implementation.

The online workshops were our regular check-ins where we could see how far they had come in their work and give them the next direction for the project realisation. It was also the meeting time with the mentors when they can check and discuss the discovery they made, the methodology they applied, the new ideas they come to, and the challenges they met in the process.

This has been a very interesting and exciting, but also complex and challenging process, in which we have witness how the initial idea is developing and often evolving in a direction and format that the teams did not envisage at the outset. An example of this is the GluBot team (Livia Zaharia (RO), Tamara Vukicevic (HR), Katerina Petelova (BG), who originally set out to make a chat bot app, but then evolved their idea to an app that monitor glucose levels using sensor-generated data and help diabetes sufferers monitor their diet and improve their daily performance. Their project, called AI Made by You, for You, showcase the benefits of AI in human life most vividly, in this case in healthcare, while the other teams have a more critical view of the interference of algorithms in our lives.

Team ALMA – Matei Stanciugelu (RO), Lidia Stanulova (BG), Adna Sisic (BiH) is probably the most critical of this debate. Their project attempts to rank the relevance of AI-related ethical issues based on Google Trends surveys and engagement metrics. They chose the controversy as their approach to explore privacy, surveillance, discrimination & bias, and fear of human redundancy. Their research and collaboration showed us how an initial idea in a rather complex matter evolved into a project with a clear focus and contribution.

BlackBox AI – Mihaela Dobreva (BG), Tea Rukavina (HR), Vivian Stamou (GR), Anastasia Nefeli Vidaki (GR), Lida Zacharopoulou (GR) also focused their research on a critical topic in the use of AI in the modern world, namely gender bias and how it leads to women (self-)exclusion from technology. The team, comprising of 5 women working in different technology-related whith fields, researched the topic extensively and presented the results in the form of a multimedia interactive labyrinth like installation that showcased the individual contributions of each team member. A series of posters, an art video, a book and videos presenting the research reveal different aspects of this phenomenon, like natural language processing and algorithmic facial recognition biases, beauty standards, gender stereotypes, and women's access to the STEM work field.

Team AIMotion – Adin Alispahić (BiH), Cristina Bodnărescu (RO), Davor Ljubenkov (HR), Tarik Spahic (BiH) set out to explore the question of how accurately algorithms can capture human emotions and translate them into action. They decided to create an interactive installation to visually demonstrate this using a facial recognition app. It scans the face and processes the data into abstract color compositions that categorize basic human emotions:: happiness, sadness, anger, fear, surprise, disgust, and

EhicAI=Labs ideathon in Sofia
Photo credit: Iliyan Ruzhin

EhicAI=Labs ideathon in Sofia
Photo credit: Iliyan Ruzhin

neutral. The result is intriguing non-verbal dialogue of the visitor with the machine that analyzes human face and outputs a visual response.

All these very intriguing and exciting projects were presented in front of the audience during the EthicAI=FORUM. In fact, this is another shift we did in the course of the project. Initially we have planned that we will have just one in-person event that will help the formation of teams and the rest of the project will run online, as we did last time. We also have planned to have competitive element that will encourage the teams to make better project as the best one will receive a monetary prize. Although shortly after the ideathon we figured out this competitive element is not very relevant to our project, because the fellows created very close and friendly relationship during their first meeting in Sofia. We were happy to see that the cooperation and friendship are driven this process rather the competition. This escalated to the idea proposed by the fellows during the 2nd workshop in July to have in person final event when they can meet again. The project team had embraced this idea and we started working on this plan.

The EthicAI=FORUM took place on November 24th in Goethe-institut Athens and included an exhibition of the 4 teams projects and panel discussion with the mentors. The beautiful building of the Goethe institut provided perfect space for showing the installations of the teams projects. Each team had created an exciting format to showcase its research and achievements and during the public event they could interact, talk and get feedback from the audience. We were very happy to see that our event attracted big number of visitors and most of them were very active, asking questions and discussing with the teams their topics and research. The culmination of the event was the public programme hosted in the institute's library when the projects teams made 10-minute presentations of their projects. The auditorium was full of people (80 seated and more standing), who were following the 2-hour programme and asked questions.

The final part of the public programme was the panel discussion on the topic Can AI be right? moderated by Manolis Adriotakis (lecturer in the first project round). The moderator guided the mentors through this very interesting conversation first reviewing the teams' projects and after that discussing some related issues like privacy, biases and explainability. The event continued with a party complimented by the DJ set of Hypermedium label.

This is in short, the story about the second round of EthicAI=Labs, where we also had a public event – talk with the German curator Inke Arns open to online audience. She was invited to present the exhibition House of Mirrors: Artificial Intelligence as Phantasm at MedienKunstVerein in Dortmund, where she is a director. The exhibition is dealing with some common cliches for issues such as hidden human labor, algorithmic bias and discrimination. Their event is close to our themes, so we wanted to broaden the scope and see another perspective on the issues. Another artist talk, which we ran during the final event in Athens, was with the local artists Kyriaki Goni who presented her work Not Allowed for Algorithmic Audiences (2021) and Alexandros Drymonitis showing some of his experimental projects with sound processing.

At the end I can sincerely say that the project fulfilled its main purpose to research on the ethical issues related to the common use of algorithms and algorithmic systems in our everyday life. I think that the varied projects created by the fellow teams put light to very relevant topics from the wide domain of AI based technology and contributed to this critical discourse. The projects they developed during EthicAI=Labs focus on whether AI can be objective and impartial, considering the limitations of the machine learning process, as well as some real effects like biases, exclusion and controversy. Thanks to their research we could see that the training of AI tools remains controversial, and very often it reflects the datasets' limitations based on gender, background, social status, and cultural belonging. At the same time, we could also witness the real advantage of the AI tools for healthcare and better life.

Last but not least I would like to give credit to the project team including Bettina Wenzel, Nikoletta Stathopoulou, Adriana Rangelova and Ruslana Stefanova who did amazing work to make this happen. I truly appreciate the high professionalism, creativity and devotion of all team' members thanks to that we managed to fulfil our ambitious plan and to create meaningful format and events. I am personally happy that during the process I learnt a lot and created new friendships.

The
AIMotion team

Adin Alispahić(BiH) – product designer
Colour-emotion theoretical framework, art installation design and setup

Tarik Spahić(BiH) – software engineer
Cross-platform integration and budget planning

Cristina Bodnărescu(RO) – interdisciplinary artist:
visual and performative arts
Visualisation implementation and art exhibition management

Davor Ljubenkov(HR) – ethical AI
and trustworthy machine learning researcher
Facial expression recognition and emotion detection algorithm
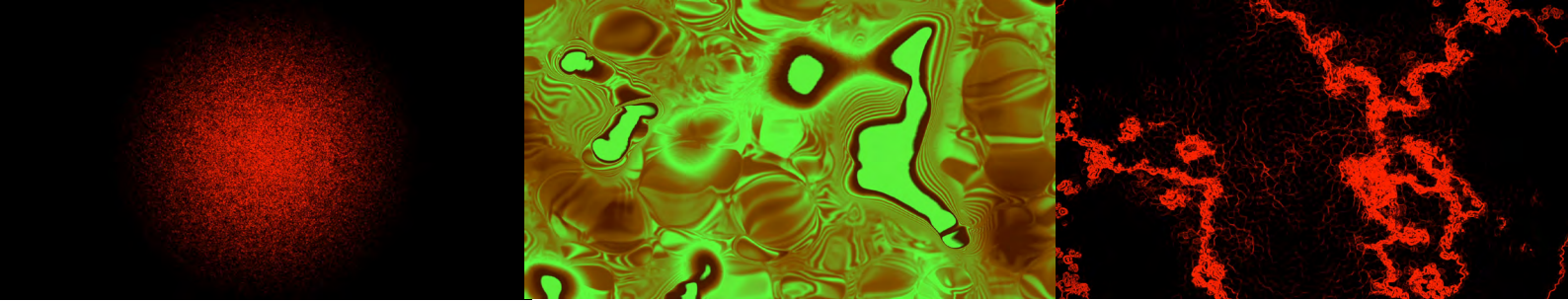
Our group project titled "AImotion" was first formed at an EthicAI=Labs Ideathon in Sofia, Bulgaria. Before the team even came to be, each one of us eagerly anticipated exploring artificial intelligence through the lens of creativity and the arts. At first, such a scope proved to be broad and quite an undertaking, encompassing both philosophy and nuanced aspects of ethics. Without the help of mentors or embracing the non-solutionist approach using Ideathon as a safe space, a playground where we were allowed to lose ourselves and dance with different prototypes of our initial brainstorming sessions, this would not have been possible in the first place. Next, we utilised different phases of design thinking (empathise, define, ideate, prototype, test) as a way to deconstruct our original idea and "kill our darlings" that proved to be unrealistic. By embracing the "Homo Faber" and focusing on human-centric design, we also arrived at our proto-idea of a human-AI art installation focused on emotions, hence the name of our project: AImotion.

The concept of our project from that moment forward was a silent conversation and reflection upon generated representation of human emotions. We knew that we wanted participants to enter our art installation space and ponder a black mirror screen that would suddenly come to life and bring our inner storm of feelings out into the open. We faced most of our challenges while trying to work out different iterations of our installation, both regarding tangible elements of our prototypes and technology itself. Some of our questions considered:

How feasible are audio-visual outputs, or should we just focus on a single aspect?
What about the latency problems – will they cause a bottleneck for user experience?
How long is the training of machine learning models going to take and what data will it entail?

Is there any pre-existing software that could help us with visualisations?
Could we perhaps also use spatial movements and steps in addition to facial recognition?
How many visitors can participate in the experiment at the same time?
Should we incorporate virtual reality aspects and hardware?

And many other unknowns.

Once the Ideathon successfully came to a close, we knew that we would be working on a multimedia installation that utilises facial emotion recognition and real time visual responses of said self-reflections as dynamic abstract visualisations. In other words, the project invites participants to an intimate non-verbal dialogue with a machine capable of creating colours and visualisations based on the confidence level of their basic emotions (happiness, content, anger, fear, sadness, disgust, surprise). Colours and hues would be mapped to emotions by adopting a simplified arousal level framework based on the work of Valdez & Mehrabian. From an ethical standpoint, we would be tackling the idea of an AI system being reductionist in reading human emotions.

In the past months, our project evolved and went through many different iterations until we were confident enough in our research methodology and the implementation of machine learning algorithms. As a final tangible form of our work, we had a physical setup which utilised not only the required hardware (a computer, camera, screen, and a projector) but also the space itself (seating space, lighting). Of course, the most important part of our art exhibition was the visitors themselves exploring their emotions through facial expressions, while observing ever-changing visualisations.
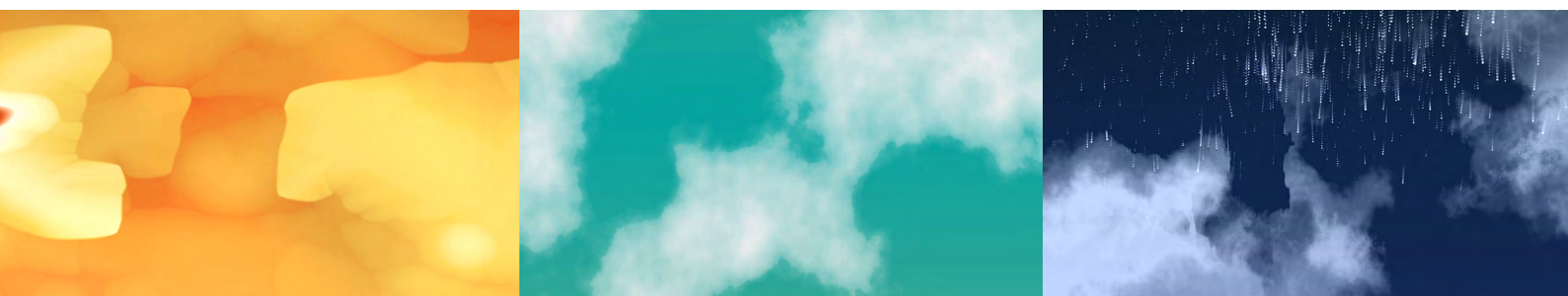
Images of gradient multi-colour backgrounds prepared by Cristina Bodnarescu, part of AIMotion team
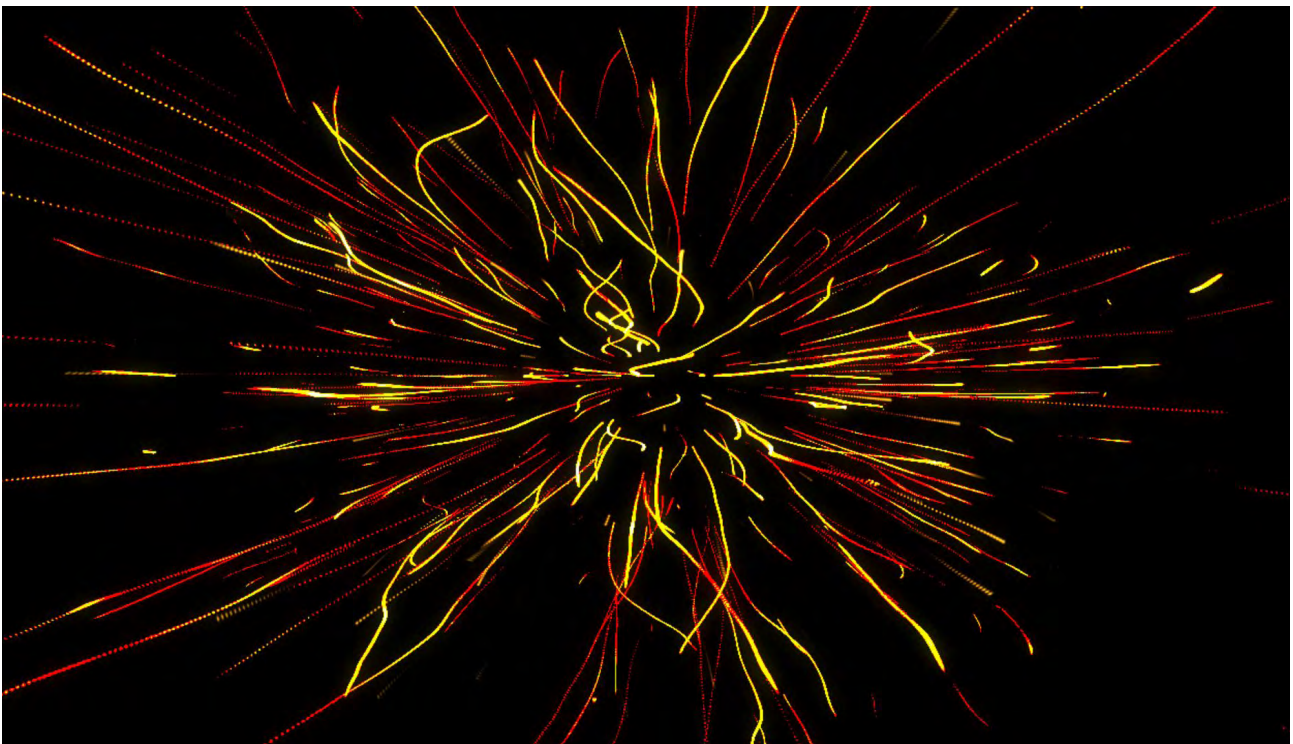
Images of gradient multi-colour backgrounds prepared by Cristina Bodnarescu, part of AIMotion team

Some of the things that we would still like to explore would include analysing training datasets for machine learning algorithms in greater detail because these datasets are the source of inevitable bias and reductionism, propagated through machine learning models . Moreover, as we implemented our project across two different platforms, there were some hidden latencies that we might try to mitigate in the next version of our project. Expanding our experience from a purely visual to an audio-visual one would be a natural expansion of the project, which would entail exploring how sounds can be generated using AI models and finding theoretical frameworks that could link specific emotions to different pitches and tempos. In addition to that, we are planning to showcase our existing version to Goethe Centers in Sarajevo and Zagreb, where we have already announced some possible time slot reservations during the spring of 2023.

Smiling, frowning, or raising the eyebrows can show a lot about the way a person is feeling in the moment. But to what extent are these features enough for an AI to truly reveal and influence a person's emotions? AImotion is an interactive multimedia installation that invites participants to an intimate non-verbal dialogue with a machine capable of creating colours and visualisations based on the confidence level of the participants' basic emotions, such as fear, anger, happiness, and disgust.

Images of gradient multi-colour backgrounds prepared by Cristina Bodnarescu, part of AIMotion team

Promotional video link

Installation view, photo: Livia Zaharia

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The
ALMA team

Adna Sisic (BiH) – Student in Conservation and Restoration
University of Sarajevo

Lidia Stanulova (BG) – Industrial and Game Design
Graduate from the National Academy of Art

Matei Stanciugelu (RO/UK) – Masters Student in Politics
Philosophy and Economics at the University of Bucharest

PROJECT: "USING THE CONCEPT OF CONTROVERSY AS A METRIC FOR THE PRIORITIZATION OF ISSUES PERTAINING TO ARTIFICIAL INTELLIGENCE IN THE PROCESS OF DEMOCRATIC DECISION-MAKING"

HOW WAS YOUR IDEA FORMED AT THE IDEATHON?

Coming from different fields (Art and Ethics) we brainstormed various topics on how and which ethical issue pertaining to AI we should approach. By looking at AI from different perspectives and mentioning autonomous vehicles and the Moral Machine project, we came up with the concept of controversy. At first our idea was more abstract, but over the course of the next months, it underwent further development.

What was the work process like? What were the challenges and surprises?

One of our main challenges was the lack of technical expertise regarding data collection and analysis, coding, etc. Fortunately, we received support from one of our mentors, Fatih Sinan, so we became familiar with tools such as Google Trends. Another challenge was to coordinate and divide the tasks within the team.

Since the initial plan was just to create an academic paper and one of our teammates, Matei, had the most experience, he was mainly in charge of the written part. Later, we divided the tasks better and everyone contributed to the project, with Adna being responsible for the research and Lidia, for the art installation and project summary.

Remote work during these months challenged our time management skills as well. Each of us had university exams or thesis and work commitments, so it was not easy to coordinate and keep up with the deadlines. By the end of the project, we had established better communication.

HOW DID YOUR VISION EVOLVE THROUGHOUT THE PAST MONTHS?

At first our idea was to produce as an output just an academic paper containing all the research we have done and our added value. In our opinion, we all found common ground. Moreover, the three of us are differently skilled individuals. In the process we learnt how to complement each other and enhance the team's performance.

WHAT WAS THE FINAL TANGIBLE FORM OF YOUR WORK?

An art installation, workshops, and a survey, presented at the final event at Goethe-Institut Athens, and academic paper, which is still under development. By implementing the feedback from our mentors, Mihaela and Marinos, we were able to create distinguished visuals inspired by the threatening aspect of AI perceived as "Big Brother" and present it in front of the audience.

WHAT DEVELOPMENT OPPORTUNITIES DO YOU SEE IN FUTURE?

We believe our concept could be implemented by policy makers in the process of democratic decision-making. Furthermore, we would like to finish our academic paper and publish it on the official website of EthicAI=LABS. We're open to presenting our project in other Goethe-Insitut locations or at any other relevant events.

PITCH

Society is being confronted with many issues and potential dangers related to AI, but it's difficult to tackle all problems at the same time; therefore, people should prioritize – or, in other words, decide which part of their digital freedom to "sacrifice," just as in the so-called trolley problem exploring the boundaries of what is perceived as "good" and "acceptable."

We have highlighted four main ethical categories of interest: Privacy, Surveillance, Discrimination & Bias, and Fear of Human Redundancy and have associated them with key words in order to measure how controversial each category is, using Google Trends. Controversy creates engagement and stirs up discussion, which can be used in the process of democratic decision making. But still, what if in the near future AI relieves us of the burden of making decisions for ourselves and decides instead of us?
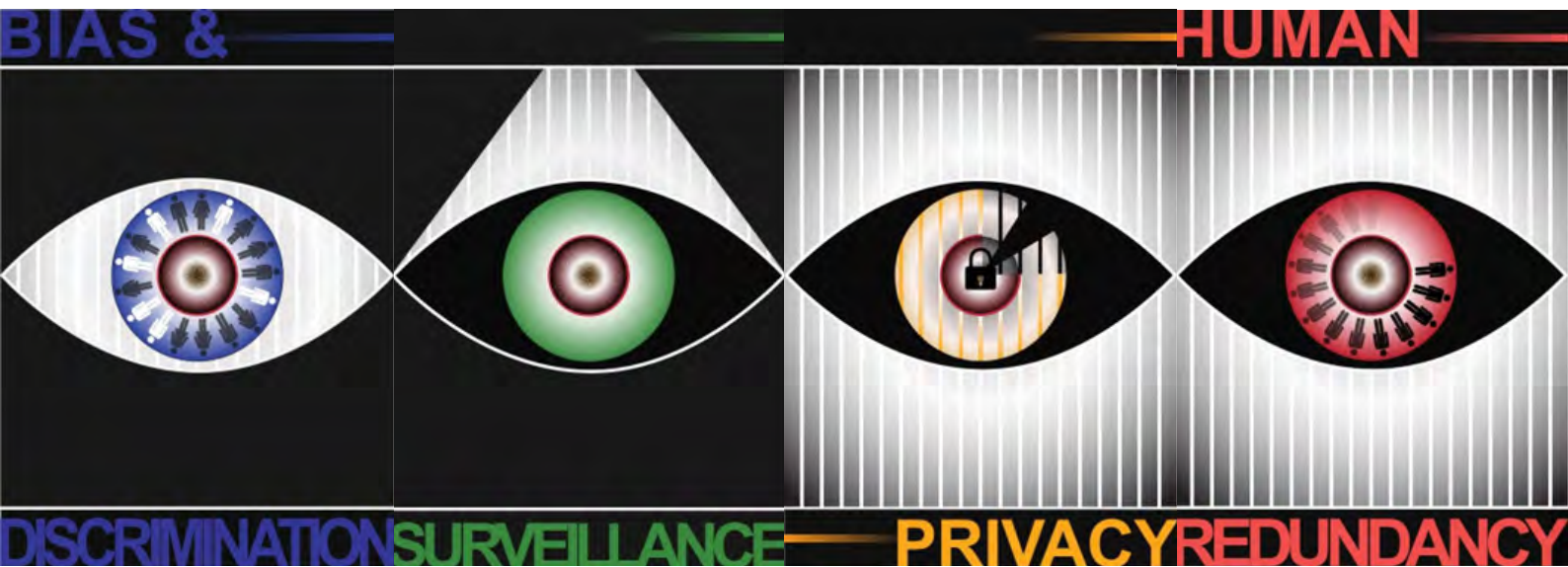
Video Installation

Installation view, photo by Vangelis Patsialos/Goethe-Institut Athen

ALMA presentation in the EthicAI= Forum, photo by Vangelis Patsialos/Goethe-Institut Athen

Posters (A3 format) addressing AI discrimination and bias, surveillance issues caused by AI, privacy issues caused by AI, the fear of human redundancy related to AI, author Lidia Stanulova, part of Team ALMA
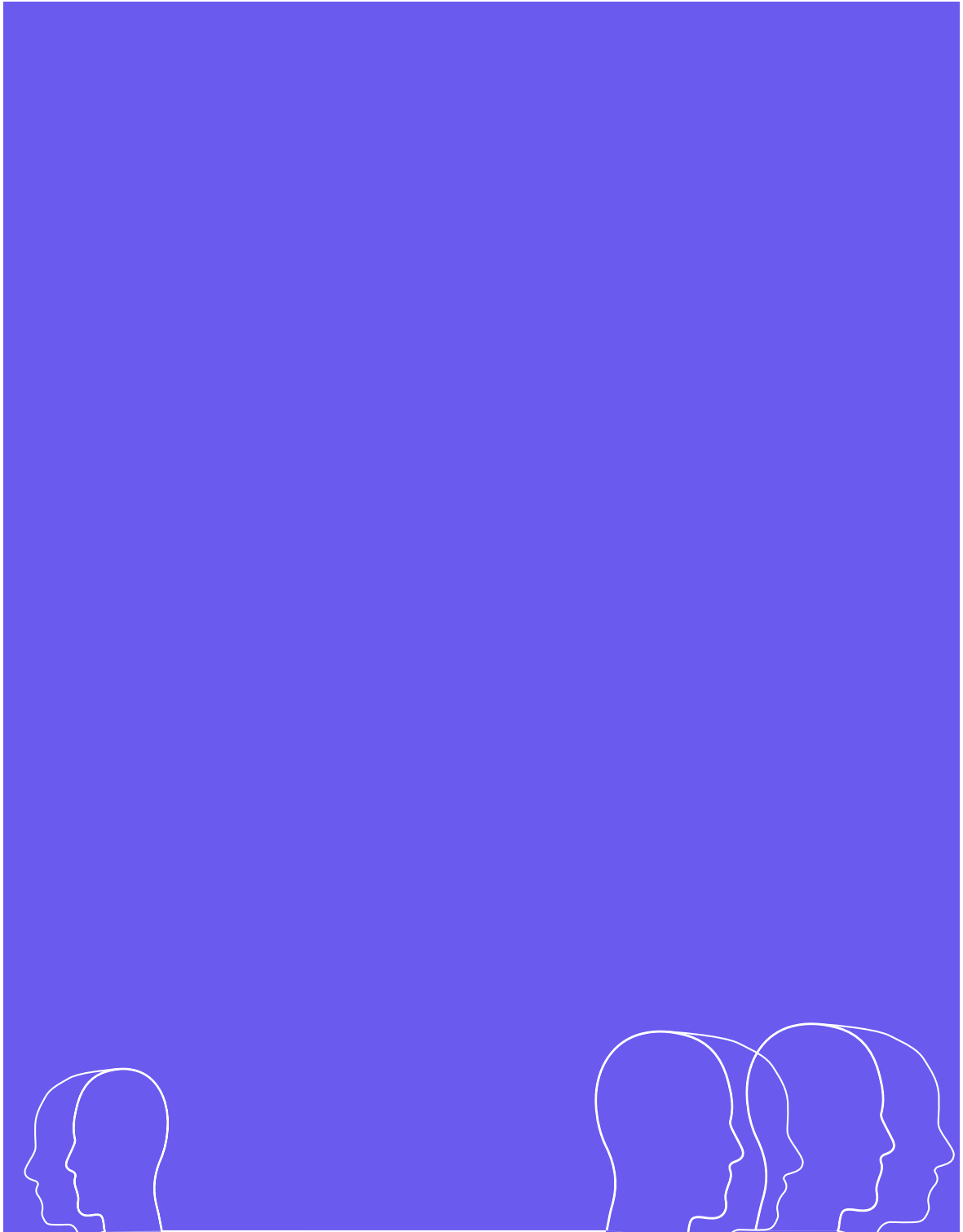
The team
BLACKBOX AI

Mihaela Dobreva (BG) – PhD candidate in Digital Arts
and an assistant professor

Tea Rukavina (HR) – data scientist with a PhD in Numerical Mechanics

Anastasia Nefeli Vidaki (GR) – lawyer with
focus on ICT and AI Law

Lida Zacharopoulou (GR) – data analytics engineer
and creative coder

Vivian Stamou (GR) – PhD candidate in Computational
Psycholinguistics and researcher

PROJECT

From the start of the Ideathon we realized that, despite our diverse backgrounds, each one of us has experienced the same discriminatory practices in our academic and working environments in the context of technology due to our gender. We shared these stories and figured out our common interest in the gender dimension of artificial intelligence (AI) applications and the ethical considerations that come with it. This realization allowed us to unite as a team and elaborate upon ways to express those concerns in a vivid and interactive manner. This goal was demanding, however, taking into account the short period of time during which we had to come up with and agree on a project idea, develop it, and present it to the participants and mentors. In the beginning, during the brainstorming period, we found ourselves lost, not knowing how to bring to life what existed in our head only as a vision and an abstract concept. After taking a pause, discussing our issue with the mentors, and trying to relax and let go of stressful and negative thoughts, we came up with the idea of an art installation in the form of a maze with several separate parts displaying the bias that women experience either in their AI-related field of work or because of various applications of AI, which embody and enhance already existing discriminatory practices and that could lead to (self-)exclusion. We decided to call the installation Blackbox AI, inspired by Bruno Latour's characterization of new technologies as "black boxes," where the input and the output are only known to the user, while the process remains opaque. We elaborated five parts into which the installation could be split, depicting our own professional expertise, focusing on natural language processing, algorithmic facial recognition biases, beauty standards, gender stereotypes, and women's access to the STEM work field. At the end of the Ideathon, we presented the outcome of our brainstorming along with a performance incorporating our personal gender bias stories.

Although we were really enthusiastic about our idea, we soon realized that a lot of work had to be done in order to materialize it. Our initial goal was to specify the individual installations that would be part of the labyrinth, figure out the IT tools we would need, and assess the impact of each one of them. During the first part of the project, we worked on an individual basis in order to generate the separate parts of the installation, and afterwards we focused on connecting them under the umbrella of gender bias and women's (self-)exclusion, while catering for the more practical and technical needs. This was quite demanding, since most of us lived and worked in different countries and had professional and academic responsibilities aside from the current project. Nevertheless, we managed to find some time to meet on a monthly basis in order to elaborate on our progress and advance one step further each time. The regular workshops and deadlines were helpful. We didn't encounter any serious issues with our own installations or with our communication – the key was to be as flexible as possible. Although our initial concept stayed the same throughout this period, our individual installations underwent some changes related to the available equipment, the research we conducted, the testimonials we collected in our communities, and the feedback we received from the mentors and from each other.

Under the auspices of Goethe Institut Athen we managed to assemble our installation several days before the EthicAI Forum. It consisted of informative posters on AI and women's access to the STEM field and proposals for their integration, of a booklet on algorithmic facial recognition biases, a text-to-image display showing discriminatory elements in the natural language processing software Dall-E, a display of magazine covers produced with StyleGAN2 with adaptive discriminator augmentation (ADA) challenging beauty standards, and a display of the stories collected via the survey on discrimination and self-exclusion in the workplace of people who have undergone a gender swap. All those parts were separated by black fabric hanging from the ceiling, thus creating the atmosphere of a labyrinth. The interaction with the audience was a crucial part of the exhibition and a source of inspiration for our further work.
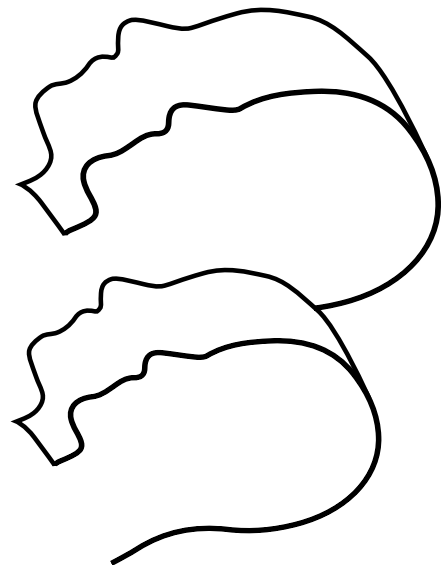
DEVELOPMENT OPPORTUNITIES

After gathering feedback and impressions from the exhibition, we aim to develop our installation further. Our main goal is to present it again to the public as part of an art exhibition or a specialized event. We plan to continue our research on the issue and combine the artistic outcome with a stronger academic background, so that it could be presented at scientific conferences or published in the form of a paper. All in all, we plan to continue exploring the topic with more interventions in different venues in order to raise the voices of women in the AI field, creating a space for dialogue among experts, artists, decision makers, and the general public, as well as having an impact on our local communities.

CONCLUSION

Blackbox AI is a multidisciplinary art installation in the form of a labyrinth, inspired by Bruno Latour's characterization of new technologies as "black boxes," where the input and the output are only known to the user, while the process remains opaque. The project aims to raise awareness of gender biases in artificial intelligence (AI) applications that can lead to the (self-)exclusion of women from technology. Different aspects of this phenomenon are explored, namely natural language processing and algorithmic facial recognition biases, beauty standards, gender stereotypes in the collected testimonials, and women's access to the STEM work field. Through our exhibition and the interaction with the audience, we want to empower women to have more agency by pointing out the biases in artificial intelligence, tackling discrimination issues, and challenging all visitors to rethink their role in the creation of our common digital future as consumers, as developers, and as human beings.
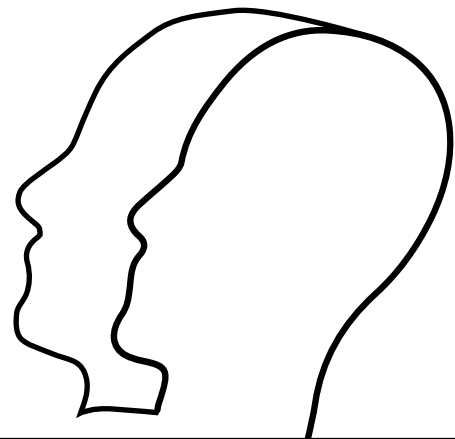
Members of Blackbox AI Team taken during the Ethic=AI Forum, photo by Vangelis Patsialos/Goethe-Institut Athen
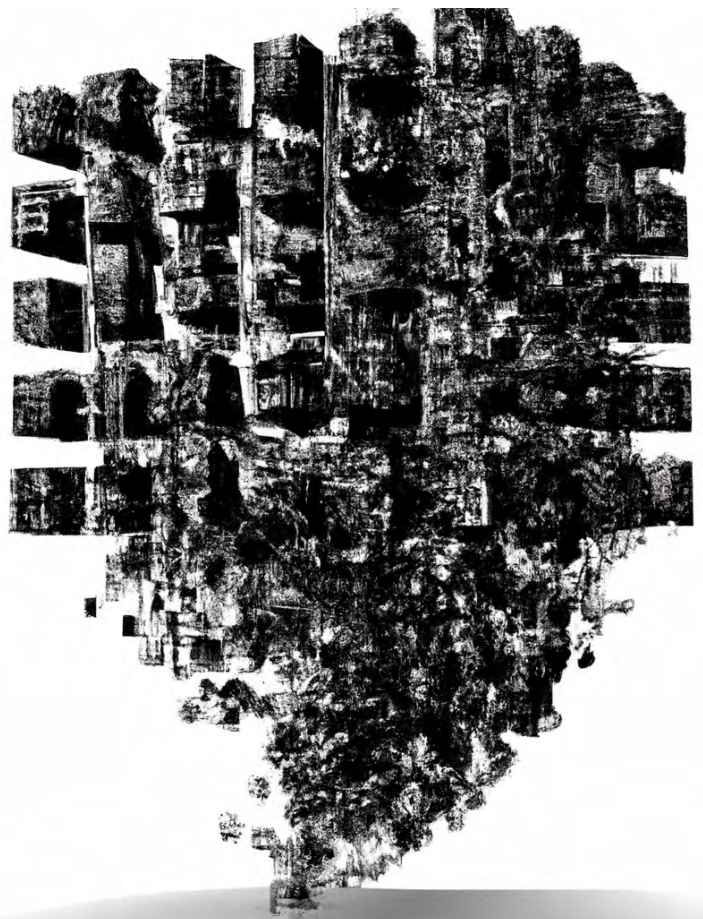
AI-generated picture depicting Blackbox AI, DALL·E 2

Posters (A4) addressing AI discrimination in the workplace and screen displaying gender-swapped testimonials on discrimination in the STEM workplace, authorsTea Rukavina and Lida Zacharopoulou, photo by Vangelis Patsialos/Goethe-Institut Athen

The
GLUBOT team

Katerina Petelova (BG) – background in bioinformatics,
building software for a clinical genetics laboratory

Livia Zaharia (RO) – architect and creator
of various interactions with mixed media content

Tamara Vukicevic (HR) – student in Faculty of Medicine in Zagreb

WE MET FOR THE FIRST TIME DURING THE ETHICAI=LAB IDEATHON. EVEN THOUGH WE COME FROM DIFFERENT BACKGROUNDS – KATERINA FROM BIOINFORMATICS, TAMARA FROM MEDICINE, AND I FROM ARCHITECTURE, WE HAD A COMMON GOAL – MEDICAL WELLBEING.

The idea was developed during discussions, and at first we wanted to create a healthcare chatbot for a range of diagnoses. Given the wide scope of it and the limited resources available, we opted for a more focused approach. Since I am living with type 1 diabetes and thus have experience, we decided to build an app for those who are also dealing with this issue.

Regarding the work itself, it was more of a discovery process and not as straightforward as one might assume. In the beginning, we identified the problems themselves, the reasons why they happen, and how to try to prevent them. As might be expected in this field, there were ethical aspects to the issue along with the technological ones.

Firstly we had to establish why diabetics need the help of artificial intelligence in their daily lives and why they would be the perfect candidates for this prototype. As patients, they experience self-doubt and fear of medical discrimination in society. The fear of technology and its trustworthiness is also an aspect that we needed to consider. Thankfully, the advances in modern medicine allow users to gather an enormous amount of medical data even at home. Thanks to the commercial availability of continuous glucose monitoring (CGM) systems, one can basically know one's blood sugar level at any given time.

The second point of the development was finding a realistic solution to the problem of failure of the existing system. We searched for references and found that there is room for improvement. Existing apps on the market only perform basic analysis and offer data information, with no direct human information and interaction. Rare hospital visits to gain information for the average over the previous month have their value but do not help the patient directly. Another thing to consider is the social aspect of this kind of information gathering. Numerical references are not part of everyday language and communication and can thus create even more social differences. We wanted the users to be able to enjoy their life to the fullest while still making use of all that is available. We concluded that no system out there was custom-made for the user. There was not even the possibility of customising it unless the user had extensive IT knowledge.

There were more technical issues we encountered along the way. Acquiring the live data from the user's device was a challenge, since we needed a constant direct flow of data from the user to the app. Another issue was processing the large amount of data in a short time and being able to provide a useful response. The choice of platform and the lack of time to resolve the aforementioned problems were also issues.

We split the work and focused on a more tangible format so that we could provide a base for future users and researchers. To clarify the projects' evolution, the stages were as follows: first we wanted a chatbot (preferably integrated with existing services such as Whatsapp or Viber), and second, a pattern recognition analysis. By breaking the task into subparts, we learned that resources were lacking, which prevented us from finishing it as it was conceived of in the beginning. Pattern recognition alone is a specific field in itself, as well as data transmittance and app integration. Subtle changes to the original work plan occurred as the project progressed.

We created a basic analysis script that worked with static data, which would be fixed data downloaded from the CGM servers pertaining to the user. It did not have the dynamic and live functions we wanted, but we continued searching for solutions.
During this time, we found the results presented in the end – on one end a chat bot on Discord (communication platform) that allows users to enter their extracted data and to analyse it, which is very useful for further growth of the community. It allows users who have technical know-how to integrate scripts of their own to be analysed and for users who don't have such advanced knowledge to use them in a simple way.

The physical hardware part was built with the Raspberry Pi. This relates more to the live function of taking the values and to the fact that all the technologies used there are commercially available, which is a very important point considering not all users have access to hard-to-find components.

The installation that came out of using the Raspberry Pi as hardware and Home Assistant as the OS

demonstrated what you can do with an pre-existing integration with the current CGM device (Dexcom). Based on values from the sensor, with smart devices included in HA and the automations activated, you can control or signal devices around you. For the exhibition, we just had a sound pattern that changed according to the blood glucose – a lower pitch if the glucose increased and a higher pitch if it decreased. However, the majority of users with smart homes use it to light their way to the kitchen if there is a nighttime low.

Both results are intended to raise awareness. In our opinion, this is not a finished project but rather an ongoing process. Adults are less likely to refuse suggestions from AI if they come in the form of suggestions and not alarms. Children might come to enjoy learning how to tinker in an open source app. As long as there is no fear of ruining some expensive equipment or, even worse, making a wrong medical decision, the user is free to experiment with the boundaries of knowledge they can access.

The use of cutting-edge Artificial Intelligence allows us to improve our lives in ways we are just discovering. Our team decided to start this trend in the medical domain and, more specifically, for patients of type 1 diabetes. Though there were many challenges in the process that we are still working on, most of them have given promising solutions.

Finally, the discord channel will be left open, and we will be glad to hear from people interested in it. All of our team members want to further this subject at their own pace and in their own time. We are open to any kind of questions or observations, so feel free to contact us at:

iza_liv2005@yahoo.com – Livia Zaharia
tamara.vukicevic2@gmail.com – Tamara Vukicevic
katerina.n.petelova@gmail.com – Katerina Petelova

And for some further reading on the subject of diabetes
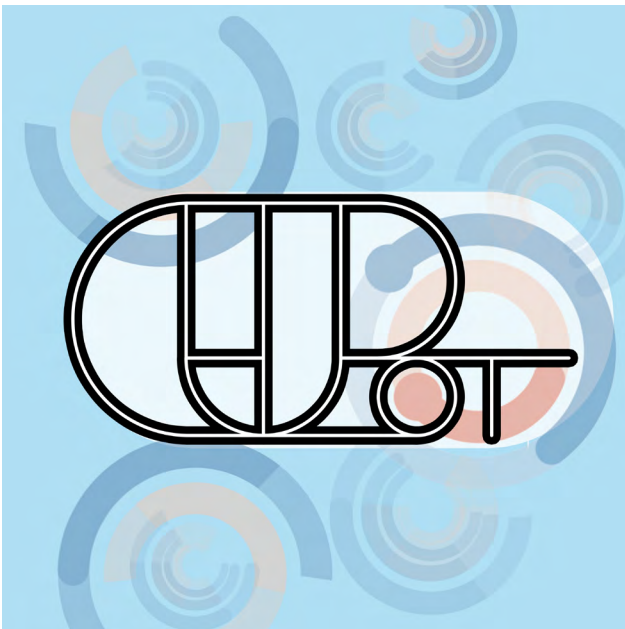
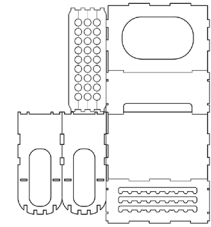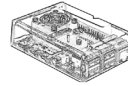Glubot logo, author Livia Zaharia, part of Glubot team

THE DARK SIDE OF THE MIND
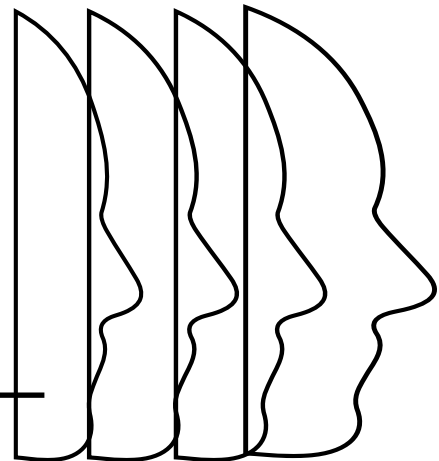
WHAT YOU NEED

1.THE RASPBERRY PI
(here was used RP 4)
and some additional items like

1.1 a microSD (4GB recomended)
1.2. 5V USB C (or the one compatible
with your device) charger
1.3 some speakers with 3.5mm audio
jack
1.4 Ethernet connection to your
router at home

2.THE LASER CUTTINGS
In white plexiglass 3mm thick (*bottom*), and MDF or any wooden
board of 3mm thickness (*right*)

PLEXIGLASS   MDF

3.DOWNLAD AND INSTAL HOME ASSISTANT *(link on left)*
Following the instructions on the site.
As a rule of thumb instalation of Home Assistant is done using the microSD card
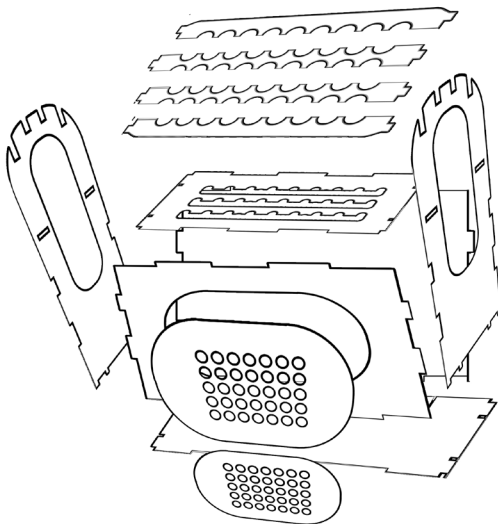
4.ACCESS YOUR HOME ASSISTANT PAGE
At *homeassistant.local:8123*

5.INSTAL DEXCOM INTEGRATION *(link on right)*
Following the instructions on the site.
Now you can use the values of glucose and trend taken live through the data from your
phone

HOW TO ASSEMBLE THE CUT PIECES

All parts requierd for assembly will be cut,
excepting the glass vials- those are additions
that can be coleted after usage by the pacient
All components of MDF will be glued togheter
excepting the backboard (the piece opposed
to the oval plexi insert)
The plexiglass components will be glued
between them both
The glas tubes are free standing.
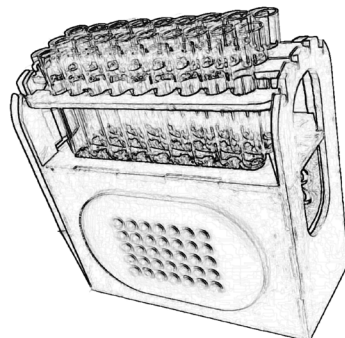
HOW TO FINISH THE PROJECT

It is a DIY project. So besides the Dexcom integration and the casing you will need some
time to tweak the automation like sound,
schedule, pattern of sounding

LIVE PROCESSING
OF DATA

CONNECTIVITY
WITH OTHER APPS

[CHATBOT]
integrated with

DATA PROCESSING

DATA ANALYSIS

MATHEMATICAL
STATISTIC

PATTERN
RECOGNITION
[AI LEARNING]

CONNECTIVITY
WITH OTHER
DEVICES

SENSOR DATA

OUTPUT DEVICES

WEARABLES

INTEGRATION

HOME DEVICES

HUMAN
PHYSICAL
INTERACTION
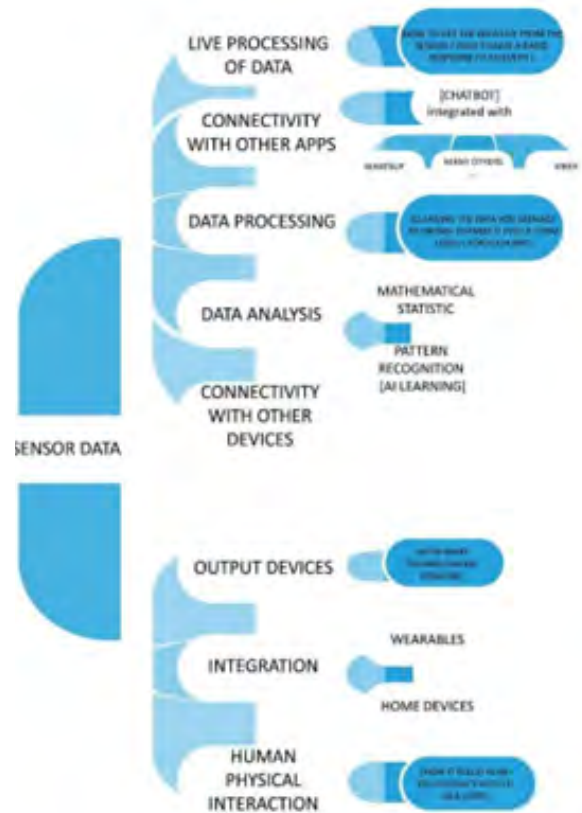
Instructions, part of a
Booklet, authors: Livia Zaharia, Katerina Petelova,
Tamara Vukicevic, team Glubot

ETHICAI=LABS TEAM COLLABORATION REPORT

GLUBOT

Katerina Petelova, Livia Zaharia, and Tamara Vukičević Glubot started with a very clear functional idea in mind and stayed rather focused to it all the way through. They were rather immune to, and untouched by, external input so that their project remained pretty much narrowed down to a very specific direction from the ideathon to their eventual presentation. At the very same time, however, they have been open in finding more engaging ways to advertise their system and to present it in front of a living audience. I have certainly had my concerns to the very last moment that they would indeed manage to achieve all they had promised – given that their project turned out to be rather demanding technically speaking as it involved data monitoring and analysis, UI design and, on top of that, physical computing and design props. They did succeed, nevertheless, in delivering everything and the eventual result has been both coherent and well presented. Overall, the team has worked silently and persistently in a very focused manner and they managed to deliver a proof of concept for a very specific solution to a very real problem – one that could be potentially refined to become the basis of some future product (?).

AIMOTION

Adin Alispahić, Cristina Bodnărescu, Davor Ljubenkov, and Tarik Spahić AIMotion have worked hard and with great enthusiasm from the very beginning even if they have been somehow trapped in their (sincere, yet doomed to fail) effort to reconcile pragmatic technicalities, theoretical legitimacy, and artistic concerns. This is a rather unfortunate situation since theoretical legitimacy of the sort they have been after is nowhere to be found, and since they achieving artistic excellence in such a short time is already a very difficult - if not impossible - task. It is quite often that teams of a predominantly techno-scientific perspective (unconsciously) try to explain out complex cultural implications. In this particular case, the team has spent much time and resources genuinely pursuing some 'scientific' mapping schema between emotions and colour patterns. Yet, such a schema does not exist (and certainly not in a culture/context/personality agnostic fashion) and even if it did it would largely irrelevant since simple colour patterns are not enough to account for a meaningful projection. Nevertheless, and despite falling into this trap, they have worked hard and in a very enthusiastic. The final final result does not do justice their efforts in my opinion and they should certainly benefit some extra time. Their visualisations are rather simplistic and their system (like most such systems - to their defence) generally fails to provide coherent and persistent results so that the impetus of their work does not really takes off. Much more sophisticated interactivity would be required so as to make the work more engaging. Nothwithstanding, they have indeed managed to implement a functional pipeline that pretty much achieves what they have promised – a system that would convert detected emotions to visualisations of some sort – and they have certainly made significant progress insofar as their visualisations are concerned.

ALMA

Adna Šišić, Lidia Stanulova, and Matei Stanciugelu
ALMA has probably been the most heterogenous team of all, with members of very different backgrounds none of whom had any skills regarding the more technical aspects of AI. Throughout their collaboration they have oscillated a lot between a number of ideas and methodologies and at times they have been probably entirely lost. Nevertheless, I believe that they came up with some very interesting concepts in the process, namely: philosophically informed metrics for ethics (and maybe different varieties thereof) and a certain performative/dramatic approach to how the present/advertise their theoretical work. To some certain extent there is great impetus in both. Unfortunately, however, they eventually retracted to less revolutionary/interesting affairs and their project turned out to be a rather standard theoretical presentation of well known criticisms towards AI technologies that are, to boot, also exhibited in a standard fashion (posters, etc). Overall, their collaboration exhibited an interesting methodological freshness, even if they chose to smooth it out in the process.

BLACKBOX

Anastasia Nefeli Vidaki, Lida Zacharopoulou, Mihaela Dobreva, Tea Rukavina, and Vivian Stamou
BLACKBOX has been arguably the most enthusiastic and energetic team of all. They have collaborated with one another seamlessly and in a fashion wherein their individual personalities somehow maintained their distinctness while also contributing to a coherent broader whole. In this continuum, the eventual installation is much more than the sum of its parts. Each member has focused on a very specific problematic with respect to a feminist critique of contemporary AI technologies while together they narrate an ongoing tale of different young women struggling to find a place (and some sort of peace) in a world that is ever biased and ever exclusionist and where technological progress is just another means to worsen their struggle.

Accordingly, they have had a very difficult task to accomplish – not simply to pursue their individual perspectives and micro-projects (which they all did with success) but also to make sure that the former are in a meaningful juxtaposition with one another in both artistic and semantic respects. They tackled with success this rather complicated and multi-layered task to present a work that has been rather immersive and boldly feminist.
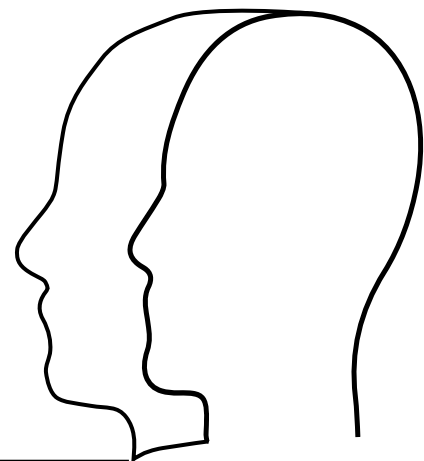
ETHICAI=LABS 2022: A TRANSFORMATIVE JOURNEY TOWARDS A FUTURE WITH ETHICAI

As we have now reached the end of the 2022 edition of the EthicAI=LABS program, I realize that it took all of us on a transformative journey towards a better future, one which includes ethics in AI deployment. The four ethicAI projects that are the outcome of the program open the door to so many possibilities for further development, that I wonder whether we should consider this moment to be the end of this year's edition of the EthicAI=LABS program or, better, the beginning of a dream coming true: the dream of a future with ethicAI.

My role as a mentor along this transformative journey primarily revolved around the "ethics" component in the EthicAI=LABS. This translated into offering guidance to all fellows towards integrating moral concerns when designing and implementing their AI projects. Basically, every topic surrounding AI deployment is prone to various ethical concerns, from bias and security of the data to surveillance, deep fakes, and transparency of AI decisions, to mention but a few. So, my advice to the program fellows was to pay special attention to the ethical risks associated with their AI proposals; and even when negative side effects of their AI projects cannot be fully eliminated, to indicate ways to mitigate these negative ethical implications.

The guiding question that ethics puts forward when considering AI deployment is: How should we live well with AI? In answering this question, I dared the program fellows to consider how AI can transform our lives for better or for worse, how AI cand contribute to – or deter – human good. In the conceptual framework of virtue ethics, dating back almost 2500 years ago to the works of Aristotle, human good refers to human moral flourishing, accomplished through human virtuous development. The moral framework of virtue ethics thus suggests that we should focus on the way AI systems can be designed and used as tools for human virtuous development, contributing to what Aristotle would call "the good life" - a life in which people flourish and reach their full potential by acquiring and exercising virtues of character and virtues of intellect such as practical wisdom, knowledge, reasoning, honesty, perseverance, temperance, justice and so forth.

I was impressed to see how all four teams of the EthicAI=LABS 2022 highlighted in a wonderful way the "goods and bads" of AI deployment, integrating in their projects various ways in which AI can transform our lives for better or for worse.

ALMA

Adna, Lidia, and Matei from ALMA team emphasized the dark side of AI by putting forward the original idea of controversy as a metric for evaluating AI. They emphasized how AI intrudes nearly every aspect of our lives, documenting an academic paper that has the potential to introduce a new and reliable metric for evaluating AI. The way they operationalized AI controversy along several ethical dimensions offers the research community a robust tool that can be widely used as a metric for AI evaluation across various sectors and industries.

GLUBOT

Katerina, Livia, and Tamara from Glubot team started from a personal experience and highlighted how AI can benefit patients suffering from diabetes across the world. By positioning AI as a highly personalized assistant to people with diabetes, they offer a smart DIY open-platform alternative to current apps that monitor glucose levels and other relevant parameters. Their proposed solution can easily be integrated with smart home devices and can potentially relieve anxiety of both technology and of our own monitored data.

AIMOTION

Adin, Cristina, Davor, and Tarik from AImotion team revealed through an interactive setting how AI "sees and reads" human emotions. They put forward a showcase of shapes and colours as an AI-generated mirror to our deepest emotions such as happiness, sadness, surprise, or disgust. This led us the revealing outcome that the way our face expresses our emotions might be interpreted in a different way than we intended or expected, which makes us reflect deeper on the way the projected image of our emotions finally makes us feel and perceive ourselves. With this insight in mind, wouldn't we all be more willing to smile?

BLACKBOX

Anastasia, Lida, Mihaela, Tea, and Vivian from BLACKBOX team went far beyond current discussion over biased data in AI systems and tackled the topic of self-exclusion of women in STEAM fields. Their project reveals the deepest darkside of AI, working as an implicit demotivator for women to step into AI deployment. Driven by personal experiences of team members, their installation in the form of an interactive maze has the fabulous potential of empowering women to be not only part of the AI conversation, but also lead drivers towards an inclusive future of ethicAI.

It was not an easy task for participants to move from complete strangers to project partners. But the passion they shared for developing ethical AI was the glue that brought them together in this wonderful transformative journey. To this I would like to add the bottom-up approach of the EthicAI=LABS Ideathon in offering participants the possibility to choose both the topic they were passionate about and the colleagues with whom they would pursue their ideas around AI and ethics. And I consider this to be truly valuable because it allowed participants to design their own agenda instead of complying with an agenda imposed to them. In the end, this meant that the level of engagement was very high, which was rewarding for all involved in the program.

Looking back, I think that the main highlight of the EthicAI=LABS 2022 was the capacity to empower the fellows to step out of their comfort zone and dare to take risks, to find solutions to ethical issues surrounding AI deployment that are not at all obvious. The EthicAI=LABS offered this unique playground for fellows to experience, to explore, to break limits, to be the best that they can. It took fellows through a transformative experience that provided a wonderful opportunity for growth, for evolution, for broadening their perspectives. And I think it is precisely through this mixture of uncertainty, vulnerability, and joy, that most creative ideas come to light. The four resulting projects of the program definitely proved this.

MENTORS

As the mentor for this year-long project, I am incredibly proud of the work that each of the four teams have accomplished. The projects that were developed on the topic of artificial intelligence and ethics were truly innovative and valuable. As a mentor, it has been a pleasure to watch the teams grow and develop their ideas, and I am grateful for the opportunity to have been a part of this project. I have learned so much from the participants, and I have no doubt that they will continue to make valuable contributions in the field of AI ethics.

AIMOTION

One of the teams, AIMOTION, used AI to transform people's facial expressions into colors and shapes. This project provides a unique and creative way to visualize the emotions and feelings of people, and has the potential to be used in a variety of applications, including art, psychology, and even advertising.

ALMA

Another team, ALMA, focused on grouping the issues that people encounter with AI. They developed a tool that helps people to categorize the issues they face with AI, and to understand how these issues relate to each other. This tool provides a valuable resource for people who are trying to navigate the complex landscape of AI ethics, and for those who are looking for ways to address the challenges that AI presents.

BLACKBOX

The team known as BLACKBOX focused on the issues and discrimination faced by women in the technology world. They created a beautiful piece of art that illustrates the challenges and biases that women face in the tech industry. This art piece is a powerful reminder of the need to address these issues, and to ensure that the tech industry is inclusive and equitable for all.

GLUBOT

Last but not least, the team called GLUBOT focused on providing recommendations to diabetic patients using AI models. They developed a prototype tool that uses AI to provide personalized recommendations to diabetes patients, based on their individual medical histories and needs. This tool has the potential to greatly improve the lives of diabetics by providing them with the information and support they need to manage their condition effectively.
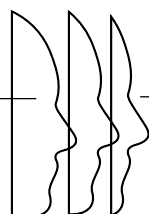
Each of these projects highlights the importance of considering the ethical implications of AI and provides valuable tools and resources for addressing these issues. As the use of AI continues to grow and expand, it is essential that we consider the ethical consequences of our actions and take steps to ensure that AI is used in a responsible and beneficial manner.

Collectively speaking, the projects developed by the teams in this project demonstrate the potential of AI to be used in a positive and ethical way. By addressing some of the most pressing ethical issues facing the field, and by providing practical tools and resources for addressing these issues, the teams have made a valuable contribution to the field of AI ethics. The project has brought together engineers, philosophers, artists, and lawyers, and it has produced a number of significant benefits. One benefit is the development of creative and innovative solutions to complex universal problems about ethics and AI. Each of these professions brought some unique perspectives and sets of skills to the table, and by working together, they combined their knowledge and expertise in new and exciting ways. For example, engineers were able to provide technical expertise on how to design and build a particular solution, while the philosophers offered insight into the ethical implications of the solution and data used. Artists helped the solutions to be visualized and communicated the solution in an engaging and compelling way. Moreover, the lawyers provided guidance on legal and regulatory issues. By working together, these professionals produced solutions that were not only technically sound, but also ethical, aesthetically pleasing, and legally compliant.

Another benefit of the project was the opportunity for cross-disciplinary learning and collaboration. By working together, these people, these professionals, have learned from one another and gained a deeper understanding of each other's disciplines. For example, the engineers, I suppose, learned more about the ethical implications of their work, while the others gained a better understanding of the technical challenges involved in implementing a robust solution. This kind of cross-disciplinary learning is valuable for the individual professionals involved, as well as for the project as a whole.

Additionally, these kinds of multi-disciplinary and collaborative projects have the potential to foster a more inclusive and diverse working environment. By bringing people from different countries, majors, backgrounds, disciplines, and so on, we created a space where different perspectives were valued and heard. This led to more creative and innovative solutions, as well as to a more positive and productive working environment for all involved, including the mentors and organisers.

To sum up, the EthicAI=LABS project (last year and this year) produced a number of significant benefits to all of us, including the development of creative and innovative solutions to complex problems, the opportunity for cross-disciplinary learning and collaboration, and the fostering of a more inclusive and diverse working environment.

I would like to thank the Goethe Institut for organizing this project and for providing the necessary resources and support. I would also like to thank the teams for their hard work and dedication, and for the time and effort that they put into their projects. I have no doubt that the impact of this project will be felt for years to come, and I am excited to see what the future holds for each of the teams. I have no doubt that they will continue to make valuable contributions in the field of AI ethics, and I look forward to seeing the progress that they make in the future.
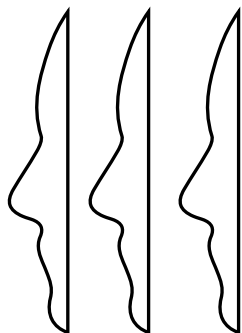
PROJECT FELLOWS

ADIN ALISPAHIĆ

Student of product design in Academy of Fine Arts, Adin Alispahich (b. 1999) graduated two high-schools in Zenica, one a Musical art highschool and the other catholic highschool "Sv. Pavao". At the same time got a C 1.1 certificate in English language. After finishing highschool enrolled into a faculty of chemical engineering and after a year decided to choose another path, the path of "art".

Instead of going towards music he started studying product design and history of arts on the Academy of fine arts in Sarajevo. Currently he is doing projects such as designing things from one time use plastics, making use of metal and wood combinations, designing architecture like parks and buildings (from buildings and sceneries for movies to galleries for locations in Sarajevo). He throughout studying history fine arts, music, and movies found a thin line connecting all of the moments from the past with today, his constant communication with philosophy students from Sarajevo drives him to design and make a better future. He is constantly evolving and learning how to apply the knowledge of the past with the unknown of tomorrow. With the dream of connecting the future with today in the most ethical way.

ADNA ŠIŠIĆ

Artist, Researcher, Restorer, Student at the university of University of Sarajevo (Academy of Fine Arts and Faculty of Science) I am currently studying Conservation and Restoration at two faculties in Sarajevo. I also studied Sociology and Art History at the Faculty of Philosophy for one year. I am currently working on a collaboration with a Spanish restorers and students. I graduated from the School of Geodesy and Civil Engineering and therefore I also did geodetic work and researches. Now my research is based mostly on Film and Art History as well as the History of the Artifacts I am working on. I am currently working on 3D models of sculptures that need restoration in various applications. My field of study helps me learn more about the past and I try my best to combine it with the today. Through restauration I can feel the past and use my knowledge to create the future.

ANASTASIA NEFELI VIDAKI

Anastasia Nefeli Vidaki was born and raised in Athens. She completed her bachelor studies in Law in the Aristotle University of Thessaloniki. During her studies, she spent a semester at the University of Cologne and carried through an internship at the Permanent Representation of Greece to the EU. She is currently pursuing a MsC on Law and ICT at the University of Piraeus and a LLM on Sociology of Law, Science and Technology at the National and Kapodistrian University of Athens. Her thesis focused on the digitalisation of justice on a legal and ethical level and on the use of facial recognition technologies and their impact on the notion of faciality respectively. She is a trainee lawyer, fond of new technologies and ethics and the administrator of a website on world art. She has attended many seminars and completed online courses on the fields of her interest and has participated in conferences in Greece and abroad. Articles of hers have been published in student law journals. Last year she was a member of an International Legal Research Group on Human Rights and Technology. She is a fluent speaker of 6 foreign languages, including English, German, French, Arabic, Farsi and Korean.

CRISTINA BODNĂRESCU

Cristina Bodnărescu is an interdisciplinary artist who experiments with and integrates new technologies in the visual and performative arts, being preoccupied with the body-nature-technology relationship, in a posthuman research framework. Recent projects involve creative programming and working with sensors for interactive installations addressed to both the public and performers, as well as works of experimental video art. As part of the Robots in Residence program (2021) she worked alongside the robot Nao, teaching her new skills. She handled the interaction design for the collaborative installation Out of The Box (2021) exhibited at the Festival of Lights Lyon and created A Blatant Schism (2021), a short film based on a book of personal unconventional poems with AR inserts. In her spare time she creates experimental ambient music as part of the duo Ethics Of Joy. She develops her interests for machine learning, AI, interactivity systems and the technological mediated body at the CINETIC and CESI research centres in Bucharest, where she is currently studying. Her personal works and in collaboration were exhibited nationally and internationally at Fête des Lumières Lyon, Simultan Festival, Amural Festival, Clujotronic, Blue Biennale.

DAVOR LJUBENKOV

Davor Ljubenkov is an Executive Manager for EU Public Policy Affairs regarding AI and Emerging Tech at Fujitsu Belgium, and also a Brussels based research fellow in the fields of ethical AI policy-making, innovation and technology management. His formal education is rooted in interdisciplinary computer science, mainly immersive virtual environments and data analytics. He obtained a double MSc. in Data Science, Innovation and Entrepreneurship as a joint graduate at TU Eindhoven, KTH Stockholm and MIT Senseable City Lab, with a special focus on machine learning, neural networks and data visualization in the context of smart cities. His second joint MSc. in Digital Technology Management and Digital Communication Leadership was successfully achieved at Salzburg University, AAU Copenhagen, VUB (AI Experience Center) and UCLA (Ed&IS, Digital Cultures Lab). Main research area of this joint degree was ethical AI governance, public policy innovation and regulation of digital technologies. Most recently he was nominated as a candidate for a Fulbright Schuman pre-doctoral research on trustworthy AI at Harvard 2022/2023 pending a grant approval.

KATERINA PETELOVA

My background is in both biology and programming. In high school I did a lot of maths and went to programming competitions and IT seminars. There I was exposed to various technologies, including machine learning, gained useful skills and met interesting people. While I enjoyed maths and programming very much, I also became curious about how people function at a physiological level. Started reading a lot about advances in biotechnology and was absolutely fascinated by new scientific inventions. That is why I did my undergrad in Biomedical Sciences at the University of Edinburgh. Due to my interdisciplinary experience, I have had various interesting opportunities available to me. My dissertation was related to cancer metastasis, but working on it involved a fair amount of programming and statistics. Currently, I am in the field of bioinformatics, building software for a clinical genetics laboratory. I am both very excited and concerned about the future of humanity and am particularly interested in the roles that biology and information technologies are playing to shape it. I applied for the EthicAI=LABS project, because I am keen to meet interesting people and work with them.

LIDA ZACHAROPOULOU

Lida Zacharopoulou is a data analytics engineer and creative coder from Athens, Greece. She holds a BSc in Informatics and Telecommunications from the University of Athens and an MSc in Cognitive Systems and Interactive Media from Universitat Pompeu Fabra. She has worked as a software engineer at CERN, where she focused on the software quality assurance of the power control system of the accelerators, and then as a graduate researcher at the Institute for Bioengineering of Catalonia, where she developed her master thesis on activities of daily living recognition using machine learning. She is currently based in Athens and works in data analytics. As a creative coder, she has taken part in festivals, such as Sónar+D (Affective computing for learning through games challenge, Barcelona 2019) and ProgramaLaPlaza (Medialab-Prado, Madrid 2019). She has also volunteered as a coding instructor in workshops aimed at women and teenage refugees (Code it Like a Girl, Refugee Code Week). Passionate about machine learning and human-computer interaction, her interests lie in exploring creative ways to use coding and data, the democratization of AI as a creative tool, and the discussions emerging from using algorithms in the arts.

LIDIA STANULOVA

Lidia Stanulova is born in 1996 in Sofia, Bulgaria. In 2015 she graduated from the National School of Fine Arts 'Ilia Petrov'. In 2019 she graduated from the National Academy of Art Sofia, majoring in Industrial Design. She did her diploma thesis in the field of automotive design and space exploration. Her project 'NOAH: Moon Exploration Rover' was a finalist in the 'Product Design' category at Zagreb Design Week 2020 (Croatia) and participated in the 54th International Car Show 2019 in Belgrade (Serbia). Currently she in her second year of masters in Game Design at the National Academy of Art. During her studies Lidia participated three times in the 'Erasmus+' programme studying Design in Northern Italy and doing an internship at an automobile company in Barcelona, Spain. Recently she has returned from Rome, Italy where she did an exchange semester at Quasar Institute for Advanced Design. In the summer of 2021, she was one of the three visual artists selected by the 180-Degrees Festival team to work with students from IEMA-Frankfurt. The performance was presented in Goethe-Institut Sofia and in Frankfurt. Lidia is awarded in various competitions and has taken part in different festivals, projects and exhibitions in Bulgaria and abroad.

LIVIA ZAHARIA

By profession, Livia Zaharia is an architect. However, she had various interactions with mixed media content due to a tendency for more abstract shapes and computer programs (Such as Rhino-Grasshopper, a bit of scripting in C# and Python recently). So aside from the usual work of her job, she tends to experiment with parametric modelling of shapes in different forms. Mostly smaller ones such as accessories for her jewelry that she wants to grow into a business. Each one of those creations has a script of their own and is a way of creating complex shapes using digital technology. The idea of integrating technology more into our daily lives is reflected in her shapes. The saying goes 'Form follows function'- however how that 'follow' is done, that is another story. There are multiple kinds of builds to be explored for various functions-just like parameters you input for a result. Aside from form-finding operation, there is also a personal interest in the way AI could help. Since it could help in managing diabetes, a condition she has and is monitoring using CGM, like many around the world. If data can help generate shapes why would it not help keep your blood sugar in check?

MATEI STANCIUGELU

Matei Stanciugelu is currently a first year Masters Student in Politics, Philosophy and Economics at the University of Bucharest. He graduated with a BA in Philosophy from Warwick University in 2021, specialising in critical thinking, epistemology and logic. His current research interests revolve around the concept of Ethics in A.I., with a focus on platforms, privacy and data collection, and surveillance capitalism. He is also working as a Research Assistant with the task of analysing existing impact assessment frameworks in the field of data protection and ethics, within the scope of law enforcement and wider industry and ensuring that they are compliant with existing EU regulation. In the near future he hopes to continue his research on the ethical implications of A.I. technology at a doctorate level.

MIHAELA DOBREVA

Mihaela Dobreva, born 19th Sept 1993, Sofia, Bulgaria, holds BA and MA degree in Scenography from National Academy of Arts Sofia. Currently she is a PhD candidate in the Digital arts department of NAA and she works as full time assistant professor in the Scenography department, where she is teaching the Computer graphics and animation courses. Mihaela Dobreva is the co-founder and current director of the artistic collective SAPROMAT together with Boris Daltchev. The primary focus of their artistic work and research is situated in the fields of cite specific, interactive and immersive art, sculpture, installation and performance. Their first performance as a collective "Phantasm" was nominated for the IKAR prize in 2021 in the category "Contemporary dance and performance". Also her professional CV includes more than 20 theatre and dance performances performed in the theatres around Bulgaria where she has worked as set and costume designer and multimedia artist. Her fields of interest vary in a wide specter including digital arts, creative coding, CAD programs as well as cultural managing (from 2020 she is working as program manager for 180 degrees festival for innovative arts).

TAMARA VUKIČEVIĆ

Tamara Vukičević was born in Split in 1997. where she completed elementary education and high school. In 2016, she enrolled at the Faculty of Medicine in Zagreb, where she is currently in her final year. Since the beginning of her studies, she has been involved in the work of the CroMSIC Medical Students Association, and since 2020, as a Local Officer for Human Rights and Peace, she has advocated an active approach to the rights of vulnerable groups in society. She is a member of the board of the Josip Sruk Sekularist Foundation and the Protagora Association, for the protection of the rights of non-religious persons and the promotion of non-religious understanding of the world.Since 2021, she has been a member of the ACWAY International Youth Association, which promotes interreligious and intercultural dialogue, and the Regional Women's Lobby of Southeast Europe (RWLSEE). She is a member of the Ocean Knowledge Youth Association and the Green Window Forum for Sustainable Development, where she also works as an educator. She attended the Summer School of Social Democracy (Friedrich Ebert Stiftung) and the School of Social Justice (Friedrich Ebert Stiftung), European Green Activists Training (Forum for Sustainable Development Green Window) and Regional Academy for women's leadership and mediation.

TARIK SPAHIĆ

University of Sarajevo, Faculty of Traffic and Communications, Computer Science Current freshmen student, born in 2002, with different passions and many hobbies, one of which, putting thoughts and ideas into code which is also my current studying field. Since a young age, the love for computers and the curiosity for all the zeroes and ones that make programs work and function grew and thankfully it stayed that way for the rest of my life. The road of hobbies and passions was all over the place, from sewing to craftsmanship to painting and musical composition... I was trying many things and loving most of them, but priorities are fixed and goals exist to be achieved. A love for art and philosophy grew on me for the past 3 years, which lead to some artworks, poems and novels, which still need to be worked on and published, but compared to the previous Tarik from years ago, this time I kept pushing these passions. An interest for languages fuels parts of my intrigue and curiosity also, but achievements in that regard are minimal; German C2 certified @ Goethe Institut and fluent in English. Straight A student from the age of 6 till 19, on-the-rise amateur billiard player, weekend programmer and a coffee loving philosopher.

TEA RUKAVINA

Tea Rukavina (born in Croatia in 1988) is a Data Scientist based in Paris. She works on the development of machine learning applications for solving different industrial problems ranging from decision-making in engineering and management, to process optimisation and predictive maintenance. She has earned her PhD in Computational Mechanics in 2018 as a joint doctorate between the University of Technology of Compiègne (France) and University of Rijeka (Croatia). As a member of the Women & AI workgroup of the Cercle InterElles (a network that brings together 16 tech companies in France around the topic of gender equality in the workplace), she has been able to explore different facets of bias in artificial intelligence, including gender bias. She has helped create and launch a Pledge to build more responsible AI applications lead by the principles of data governance, accountability, and team diversity. Tea is passionate about science communication and as the Croatian winner of FameLab in 2015 she participated in the international final in the UK. She enjoys giving talks about science, technology and artificial intelligence, with the goal of motivating young generations to pursue careers in STEM.

VIVIAN STAMOU

Vivian Stamou is currently a PhD candidate in the field of Computational Psycholinguistics at the Faculty of Philology (NKUA, University of Athens) and a Research Associate at the Institute of Language and Speech Processing (ILSP/Athena R.C.). Previously, she attended a MSc program in "Computational Linguistics" at the Institute for Natural Language Processing (IMS), University of Stuttgart, while she holds a B.A. in Classical Languages, Literature and Linguistics (Department of Philology, NKUA). She has also worked as a Computational Linguist at the Speech & Sound group, Sony European R&D Center (Stuttgart) and at Omilia Ltd (Athens). Her research interests focus on weird formations of language, natural language processing, computational clinical psychology and humancomputer interaction.

PROJECT MENTORS

MIHAELA CONSTANTINESCU is lecturer at the Faculty of Philosophy, University of Bucharest, and Executive Director of the Research Center in Applied Ethics (CCEA). Mihaela is currently the Principal Investigator of the national research grant on "Collective moral responsibility: from organizations to artificial systems. A re-evaluation of the Aristotelian framework" (CoMoRe), carried within the University of Bucharest. She has published on topics related to virtue ethics, business ethics, and AI ethics, focusing her research on the normative interplay between the concepts of moral responsibility and moral agency in relation to individuals, organizations, and AI. Before moving to academia, Mihaela has worked as a communications consultant in the private, governmental and NGO fields, and is co-founder of the Association for Education in Socio-Humanities (ESSU).

MARINOS KOUTSOMICHALIS is an artist, scholar, and creative technologist. He is broadly interested in the materiality of self-generative systems, (post-)digital objecthood, sound, image, data, electronic circuitry, perception, selfhood, landscapes/environments, and the media/ technologies we rely upon to mediate, probe, interact, or otherwise engage with the former. He has exhibited or performed his work extensively and internationally and has held research or teaching positions in Greece, Italy, Norway, and the U.K. He is a Lecturer in Creative Multimedia at the Cyprus University of Technology (Limassol, CY) where he co-directs the Media Arts and Design Research Lab.

FATIH SINAN ESEN was born in Ankara in 1984. He received his undergraduate degree from Bilkent University Computer Engineering (Ankara, Turkey), his MBA degree from Istanbul Bilgi University (Istanbul, Turkey) and his PhD degree from Gazi University Business Administration (Ankara, Turkey). After working for some private companies, he joined the government as Assistant Scientific Programs Expert in The Scientific and Technological research Council of Turkey (TUBITAK), where he has been promoted to the senior position, Scientific Programs Chief Expert, in 2018. Currently, he has responsibilities including the development of the Artificial Intelligence Technology Roadmap of Turkey and policies about digital transformation including. Academically, he has published many scientific articles, book chapters and has written a book published by an international publisher. Currently, his areas of concentration are artificial intelligence with a special focus on artificial neural networks and expert systems. He has been teaching AI courses in top universities. His current areas of interest are Artificial Intelligence (especially Machine Learning and Deep Learning), Data Analytics and Text Mining, Social Media and Social Network Analysis and Marketing, Management and Organizational Behavior.
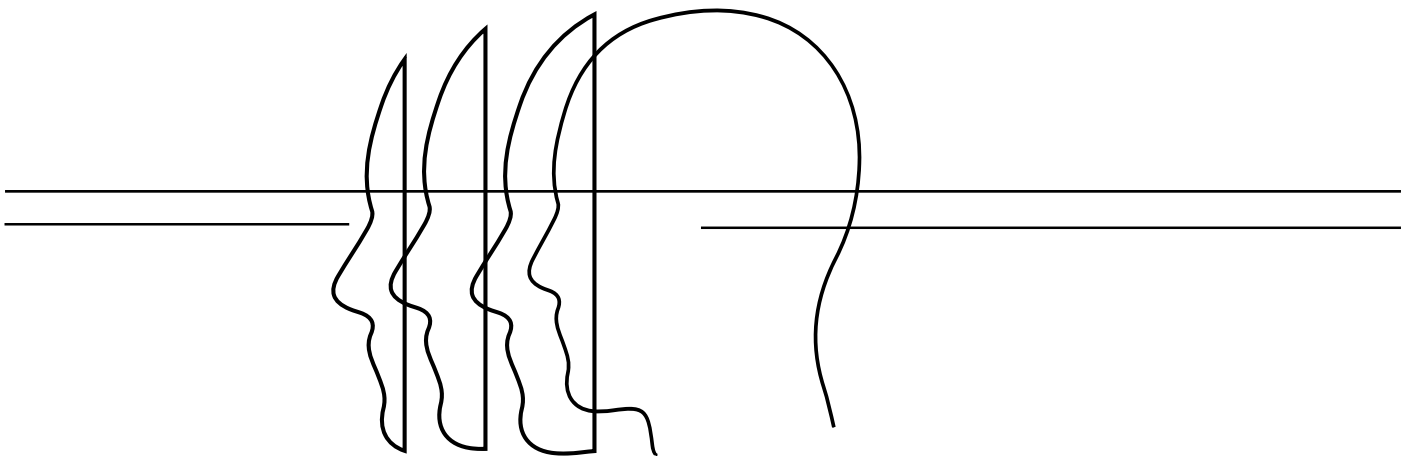
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