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**Deliverable D3.1 GAIN workshop series report**

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## 1. Executive Summary

This document describes the **GAIN workshop series report (D3.1, Task 3.5)**.

Document History			
Version	Date	Contributors	Description
1	15/11/2024	N. Kukhilava, T. Tsmindashvili, R. Kalandadze – MICM	Initial draft of the report
2	30/11/2024	N. Kukhilava, T. Tsmindashvili, R. Kalandadze – MICM	Final version

## 2. Introduction

The DoW of the GAIN project includes a series of 3 high-level scientific workshops attached to the most visible and relevant European /international conferences.

Initial targets were:

- HCI International Conference
- IEEE European Conference on Computer Vision (ECCV),
- IEEE International Conference on Advanced Video and Signal-Based Surveillance, (AVSS),
- IEEE International Conference on Computer Vision, (ICCV).
- Etc.

The timing of the workshops was chosen between months 18 and 30 aiming

- to obtain first scientific results
- to build an external research community around TRIP<sup>1</sup> and
- to have sufficient time for the outcomes' consolidation in preparations to the Final Conference<sup>2</sup>.

At this point, one Workshop has been held. The document outlines the planning for the remaining 2 workshops as well.

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<sup>1</sup> Twinning Research and Innovation Programme (D 2.1)

<sup>2</sup> Joint Scientific Conference „Artificial Intelligence for Human Behaviour Analysis“, to be held at MICM in 2025 (Task 3.2)



### 3. 1<sup>st</sup> EmoRec EEG Workshop

#### 3.1. Venue & Audience

The “EmoRec EEG Workshop” on Generalizability of Emotion Recognition from EEG Signals was held on 15 of September 2024 at the 12th International Conference on Affective Computing & Intelligent Interaction (ACII 2024) in Glasgow, UK (<https://emotionlab.github.io/EmoRec-EEG/>). ACII 2024 was held in person at the Glasgow Grosvenor Hotel. The workshop was held at the Advanced Research Centre of the University of Glasgow. At ACII, workshops are held on the day before the main track of the conference starts. Thus, apart from the presenters of the workshop, participants from ACII’s wider audience also attended our workshop.

#### 3.2. Topic of the workshop

The topic of the workshop was closely aligned with the research focus of the GAIN group around Natia Kukhilava, Tatia Tsmindashvili, Raphael Kalandadze, and Sofio Katamadze. The workshop was designed to improve the comparability and generalizability of EEG emotion recognition approaches. We invited paper submissions on this topic, including a challenge track where the EEGain system developed by the GAIN researchers was used as an evaluation testbed.

#### 3.3. Organization of the workshop

The organization of the workshop was led by the GAIN project partners Dr. Benedikt E. Wirth and Dr. Philipp Müller (DFKI), Dr. Laura M. Ferrari and Dr. Francois Bremond (INRIA). Two young Georgian researchers – both members of the GAIN-MICM team – Natia Kukhilava and Tatia Tsmindashvili were actively involved in the workshop organization as part of the organizing team. In addition to these two GAIN researchers, Raphael Kalandadze (MICM) also joined the workshop at ACII in person. The three GAIN researchers gave a presentation at the workshop on "The problem of generalizability in emotion recognition from EEG and the EEGAIN framework". In the following, we will give a brief overview of the activities that were involved in the organization of the workshop:

##### 3.3.1. Arrangements with the “parental” conference organizers

The ACII conferences invites researchers to submit workshop proposals and selects the most promising workshops based on a review process. Therefore, the initial organization step was to write up a convincing proposal for the EmoRec EEG Workshop. Writing of the proposal was led by Dr. Benedikt E. Wirth and Dr. Philipp Müller and supported by Natia Kukhilava and Tatia Tsmindashvili. After the acceptance of our workshop for the 2024 conference, we stayed in regular contact with the conference organizers regarding:

- The website of our workshop (See 3.3.3)



- The time schedule of our workshop (full day vs. half day, coordination with parallel workshops, etc.)
- Matters of infrastructure (e.g., room, hardware, etc.)

### 3.3.2. Publication arrangements

Prior to sending our workshop proposal to ACII, we were in contact with the editor of the journal IEEE Transactions on Affective Computing. The editor told us that the journal would in principle be interested in publishing interesting results of the workshop. Consequently, a submission of a paper by the young Georgian researchers entitled “Evaluation in EEG Emotion Recognition: State-of-the-Art Review and Unified Framework” is imminent.

### 3.3.3. Call for papers, distribution, and promotion

In order to promote the workshop to the research community in the field, we created a workshop website containing all relevant information. Most importantly, the workshop website includes a call for papers inviting researchers to submit relevant papers to our workshop (<https://emotionlab.github.io/EmoRec-EEG/call-for-papers/>) and a detailed description of the rules of the workshop challenge (<https://emotionlab.github.io/EmoRec-EEG/challenge/>).

Additionally, we contacted approximately 30-40 researchers in the field directly via e-mail in order to ask them

- To submit papers to our workshop
- To allow us to use their datasets for the workshop challenge
- To be part of the program committee (see 3.3.4)
- To give a keynote at the workshop (see 3.3.5)

Furthermore, the workshop was advertised on relevant social media channels and mailing lists.

### 3.3.4. Paper submission and selection

We were able to recruit 8 renowned researchers in the field of emotion recognition from EEG as program committee members for our workshop (see a full list here: <https://emotionlab.github.io/EmoRec-EEG/keynotes--program-committee/>). ACII uses the online conference system “Easy Chair” in order to manage manuscript submission and reviews. As workshop chair Dr. Benedikt E. Wirth assigned submitted papers to different members of the program committee who served as meta-reviewers. These meta-reviewers, in turn selected other members of the program committee as reviewers. Once the reviewers had submitted their reviews on Easy Chair, the meta-reviewers reached a decision regarding acceptance of the manuscript.



### 3.3.5. Keynote speakers' selection, etc.

Two established researchers in the field each gave a keynote at the workshop. Dr. Guillaume Chanel (University of Geneva and the University of Applied Sciences and Arts Western Switzerland) spoke about "The emotion "ground-truth": Emotion annotations and generalizability". Prof. Naeem Ramzan (University of West of Scotland) spoke about "From emotion recognition to biometric identification by physiological signals". The workshop concluded with a panel discussion which included the keynote speakers, GAIN researcher Natia Kukhilava, and Dr. Tanja Schneeberger (German Research Center for Artificial Intelligence).

## 3.3. Evaluation and Outlook

At the workshop, multiple attendees uttered their appreciation of the workshop. The general sentiment was that holding a workshop on generalizability of emotion recognition from EEG signals is a worthwhile endeavor since individual publications in the field are often not comparable and therefore not generalizable, which hampers progress in the field. Many attendees therefore encouraged us to hold a second iteration of the workshop at next year's ACII conference. Thus, we plan to submit a proposal for a second edition of the workshop in spring next year.

## 4. Plans for the remaining workshops

Within Task 3.1, the GAIN consortium plans to organize the following 2 workshops:

### 4.1. Workshop at IPAS 2025. AI methods of video analysis for human behavior recognition

The second GAIN workshop will be held at „Sixth IEEE international conference on Image Processing Applications and System (IPAS 6)“, January 09 - 11 2025, Lyon, France <https://ipas.ieee.tn/> . The exact date of the GAIN workshop will be adjusted later in December.

IPAS 6 is technically sponsored by: IEEE Region 08 – Europe, Middle East, Africa, IEEE France Section, IEEE France Section SP Chapter, IEEE Tunisia Section and IEEE Tunisia Section SP Chapter. The General Chairs are Serge Miguet, LIRIS, Lyon University, France, Dorra Sellami, ENIS, Sfax University, Tunisia, and the GAIN project leader from INRIA, François Bremond. The idea to organize the GAIN workshop at IPAS 6 was suggested by Professor Bremond and was supported by the GAIN consortium. Professor Sellami is the main contact point for organizational and scientific issues.

#### 4.1.1. Organizational activities

At this point:



- The GAIN workshop is announced at the conference website as „Special Session I: AI methods of video analysis for human behavior recognition “, and the CFP was published<sup>3</sup>
- Call for Special Session Submissions is announced at the conference website <https://ipas.ieee.tn/cfp/>
- The GAIN project consortium members are included in the organizational Committees: François Bremond, INRIA, is a Conference General Chair; G. Giorgobiani, MICM, is a Technical Program Committee Member.

#### 4.1.2. Scientific activities

At this point

- 3 papers are submitted to the GAIN workshop (Special Session I).
- Georgian students are supposed to present their research on 2 topics.
- 1 paper was submitted by the GAIN project researchers to the conference IPAS 6: *Automatic recognition of human psychological state on the basis of EEG-based data. Kachiashvili K.J., Kachiashvili J.K., Kvaratskhelia V.V. Paper ID: 11.*
- 2 IPAS 6 conference papers were reviewed by the Georgian researchers from MICM:
  1. *Finding Identity through Gait.*
  2. *Activity Recognition for Mechanical Systems with Complex Kinematics.*

## 4.2. Planning of the 3<sup>rd</sup> Workshop

The 3<sup>rd</sup> workshop will be designed to closely align with the research focus of the GAIN project researchers interested in low-resource NLP. Three young Georgian researchers are the part of the organizing team.

The 1<sup>st</sup> application for the 3<sup>rd</sup> workshop was addressed to the Joint Call for Workshops Proposals of ACL/NAACL/EMNLP (the most prestigious NLP conferences). The title of the proposal was "X-Low: Cross-lingual Learning on Downstream Tasks for Low-resource Languages". Except the Georgian researchers, the organizing team included researchers from DFKI, University of Malta (LT-BRIDGE) and the Kempelen Institute of Intelligent Technologies (Slovakia). The workshop proposal was specifically designed to act as a networking catalyst to connect the GAIN researchers with above mentioned 2 institutions from 2 widening countries that were previously part of a Twinning project with DFKI. Unfortunately, this proposal has been rejected.

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<sup>3</sup> [https://ipas.ieee.tn/wp-content/uploads/sites/87/2024/09/CFP\\_L\\_Special\\_Session\\_1.pdf](https://ipas.ieee.tn/wp-content/uploads/sites/87/2024/09/CFP_L_Special_Session_1.pdf)





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At this point, we are preparing a new proposal for RECENT ADVANCES IN NATURAL LANGUAGE PROCESSING (RANLP 2025). The call for workshop proposals will be open in December 2024 <https://ranlp.org/ranlp2025/>

## 5. Conclusions

As defined in DoW of the project

- The first workshop was collocated with one of the most visible European conferences, ACII 2024, which ensured a high quality of attendance. The second workshop will be held at IPAS 6, a relevant and visible conference as well.
- European partners made the Programme attractive for the relevant research community via mobilizing their networking capacities (e.g. inviting the distinguished key-note speakers and PC members).
- The high quality of paper submission was ensured, the workshop materials were published in high-impact indexing peer-reviewed journal. A relevant paper co-authored by the young Georgian researchers is ready for submission.
- Young Georgian researchers acquired an experience in organizing the international workshops, networked with the researchers from various countries.
- The workshop(s) has built the community to prepare the final project conference in 2025.