

POSTCOVID-AI:
an Intelligent Framework to Scrutinise the Social,
Behavioural and Emotional Impact of COVID-19

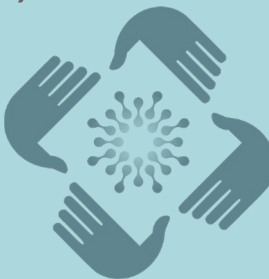
Assessing Well-Being in Spain in the Post-COVID Era: A Population Study Using Mobile Sensors and Experience Sampling

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Pomares, H., Rodriguez, C., Villalonga, C.



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PRESENTATION

NICE TO MEET YOU!

Oresti Banos
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Research interests:

- smart mobile sensing
- holistic behaviour modelling
- virtual coaching systems
- digital health application



Oresti Banos, PhD

Hi there! I am a **Tenured Professor** of Computational Behaviour Modelling at the University of Granada, Spain. I am also a **Senior Research Scientist** affiliated with the Research Centre for Information and Communication Technologies of the University of Granada (CITIC-UGR). I am a former Assistant Professor at the University of Twente, Netherlands. I am a former Senior Research Scientist affiliated with the Centre for Telemedicine Cluster of the Biomedical Signal and Systems Group (BSS), the Centre for Telematics and Information Technology (CTIT), the Research Centre for Biomedical Technology and Technical Medicine (MIRA), and the novel Centre for Monitoring and Coaching (CMC). I am also a former Research Scientist affiliated with the Ubiquitous Computing Lab (UCLab) at Kyung Hee University (South Korea).

My research works on the intersection of wearable, ubiquitous, and mobile computing with data science and **artificial intelligence** for **digital health** applications. I am particularly interested in human-aware computing, behaviour and context modelling, intelligent coaching systems, and smart pervasive sensing. I am a strong advocate of the role of science in society and truly passionate about the use of technology for social good. In this spirit, my main ambition is to bridge the gap between technology and society to automate the full comprehension of human behaviour in order to anticipate its realisation and effects at both individual and population levels. Overall, I am particularly interested in the use of intelligent technologies for **boosting mental health and wellbeing**.

Thanks for stopping by and feel free to say hi!



Edit profile

Oresti Baños #SinCienciaNoHayFuturo

@orestibanos

Tenured Professor at @CanalUGR. Research Collaborator at @utwenteEN and @kh_univ. Interests: #Mobile, #Wearable, #IoT, #AI and #eCoaching for #Health

📍 Granada, Spain 🌐 orestibanos.com 📅 Joined December 2009



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PRESENTATION

THE TEAM

POSTCOVID-AI raises from the synergy between Information and Communication Technologies and Psychology professionals.



Oresti Banos (PI)



Carlos Bailon



Miguel Damas



Carmen Goicoechea



Pandelis Perakakis



Héctor Pomares



Ciro Rodriguez



Daniel Sanabria



Claudia Villalonga



THE PROJECT

IN A NUTSHELL

POSTCOVID-AI:

An Intelligent Framework to
Scrutinise the Social,
Behavioural and Emotional
Impact of COVID-19

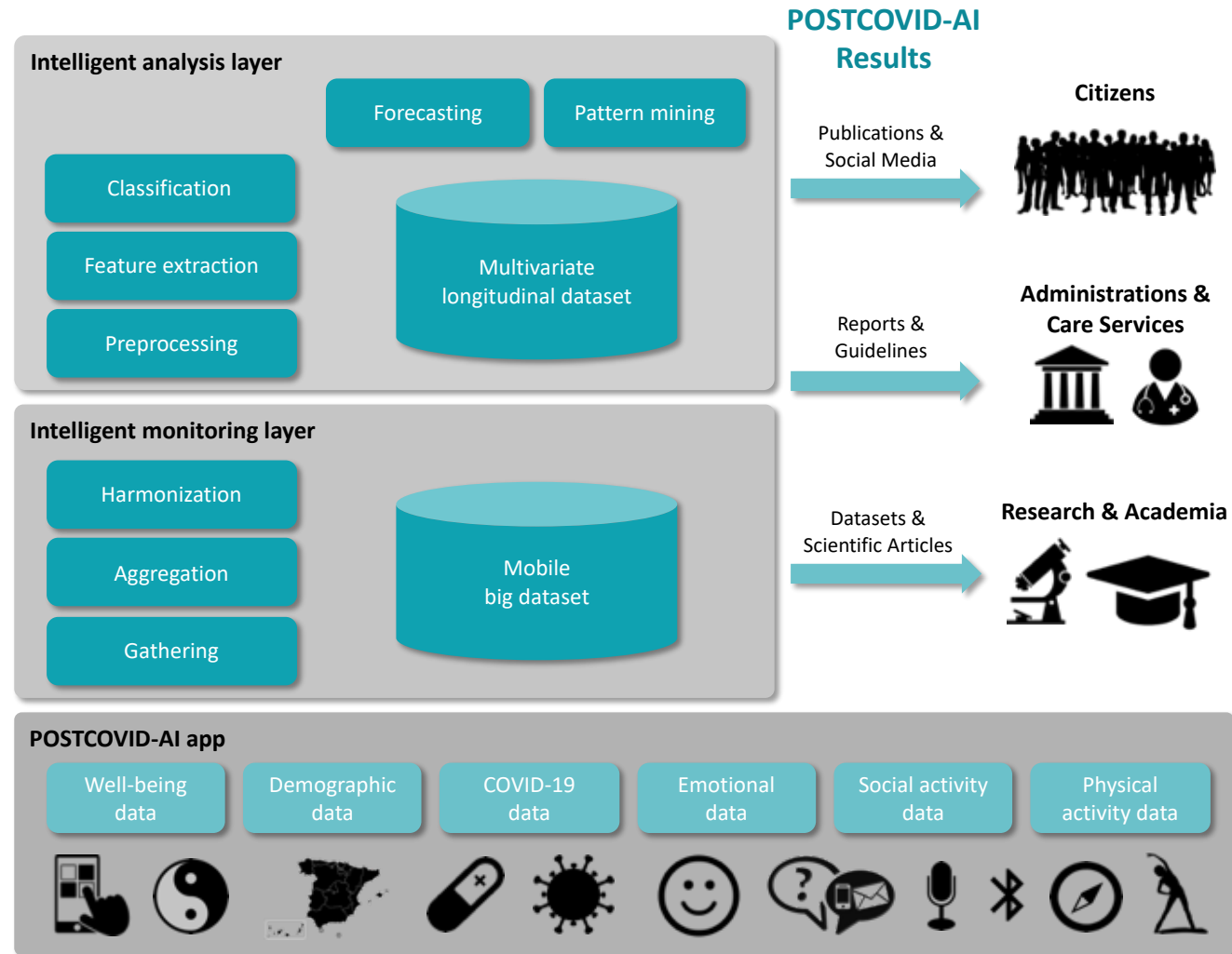
POSTCOVID-AI aims at

developing a novel intelligent framework for the real-time acquisition and analysis of social, behavioural and emotional data to monitor the impact of the post-COVID19 daily context on the well-being of the Spanish population.



METHODOLOGY

POSTCOVID-AI PLATFORM



METHODOLOGY

POSTCOVID-AI APP

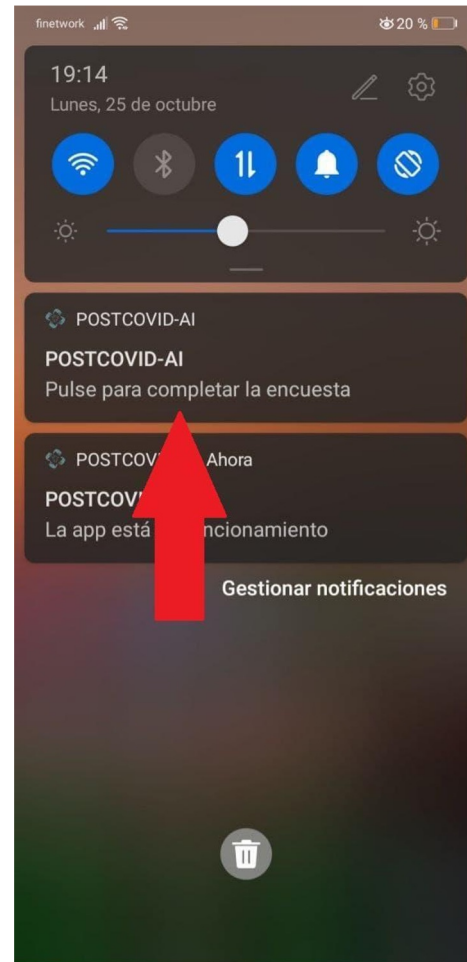


Bienvenido/a a
POSTCOVID-AI

Código de participante

1a2b3c4d5e

Enviar



¡Completado!

Muchas gracias por finalizar la encuesta, a partir de este momento solo tendrás que contestar a unas sencillas preguntas cuando recibas una notificación en tu teléfono

¡Muchas gracias por tu colaboración!



CONTINUAR



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METHODOLOGY

POSTCOVID-AI APP



POPULATION STUDY

EXPERIMENTAL SETUP

110 individuals (53 females, 57 males)

18 to 70 years old (44.3 ± 16.1)

1 month duration (15/11/2021 to 15/12/2021)

All Spanish regions (17)

Inclusion criteria: >18 years of age and own an Android smartphone

Exclusion criteria: N/A



Authorised by the Human Research Ethics Committee of the University of Granada (2214/CEIH/2021).



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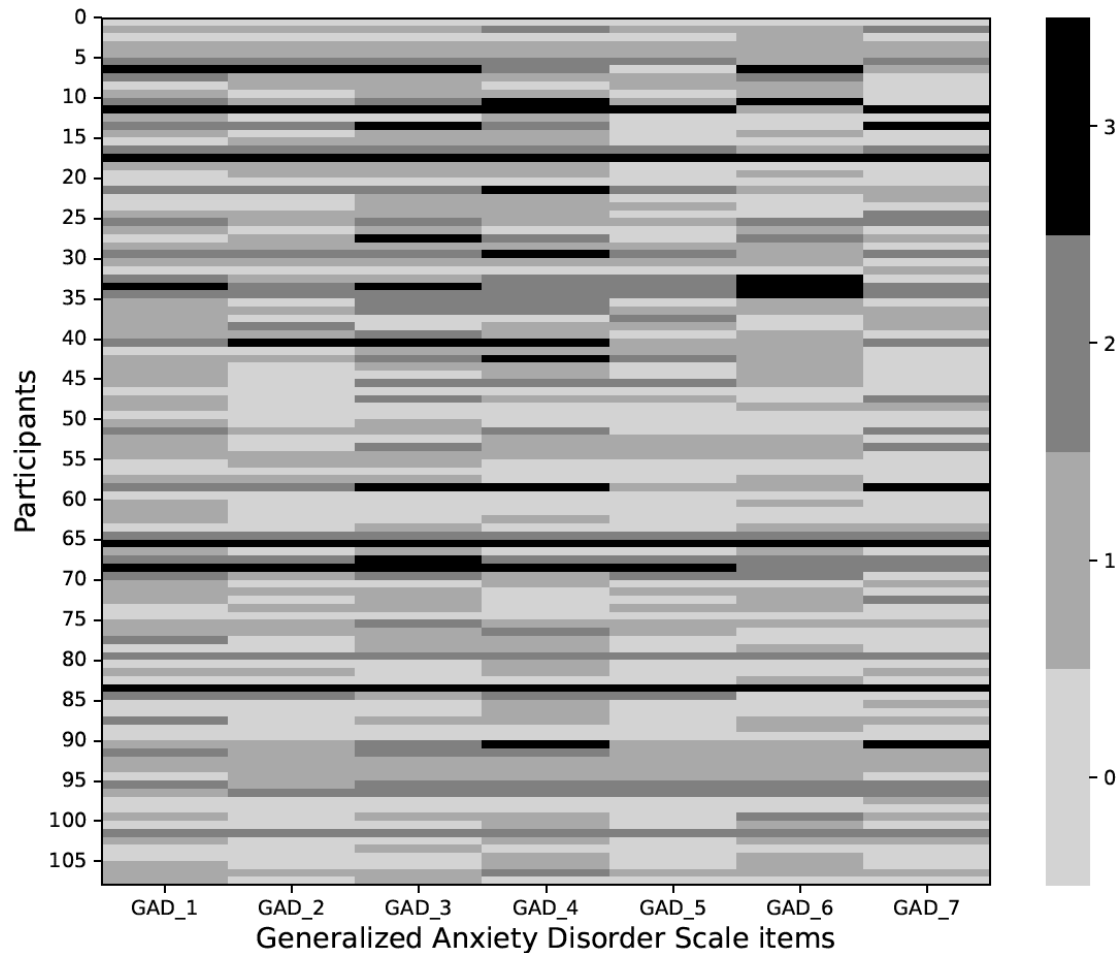
POPULATION STUDY

COLLECTED DATA

Data type	Variable	Instruments or Indicators
Sensor	Activity recognition	Detected physical activities
	Wifi	Connections to WiFi networks
	Connectivity	Type of connections with the network
	Light	Ambient light measurements
	Noise	Ambient noise measurements
	Screen	Smartphone screen status
Initial Survey	Participant's characteristics	Questions on socio-demographic and COVID-19 related data
	Psychological measures	International PANAS Short Form (I-PANAS-SF)
		General life satisfaction and seven domain of life
		Flourishing Scale (FS)
		Patient Health Questionnaire – 9 (PHQ-9)
		Generalized Anxiety Disorder Scale (GAD-7)
		Brief Resilience Scale (BRS)
		Acceptance And Action Questionnaire – II (AAQ-II)
Daily Survey	Affect	Valence
		Energetic Arousal
		Tense Arousal
	Emotional event	Report on any remarkable situations at the emotional level
Weekly Survey	Follow up variables	Questions on socio-demographic and COVID-19 related data
		General life satisfaction and seven domain of life

RESULTS

PRELIMINARY OUTCOMES

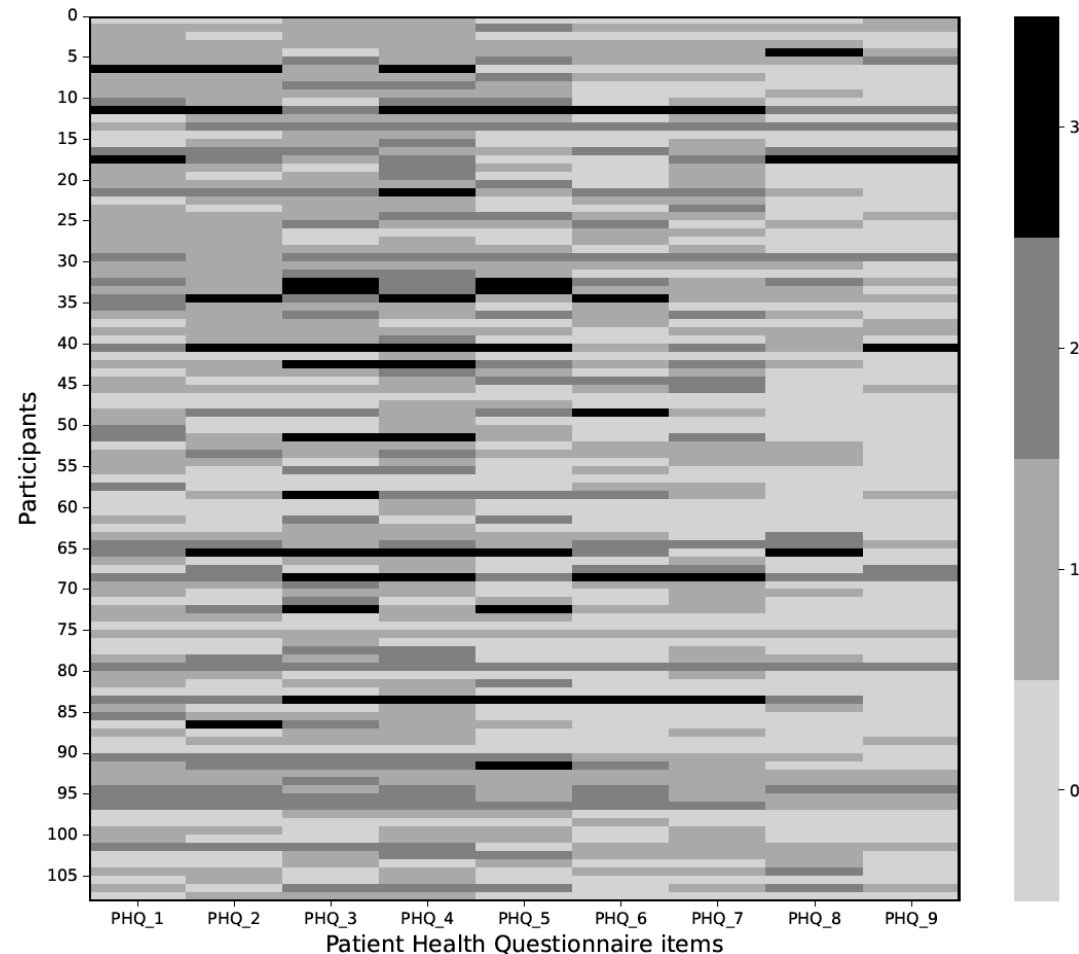


General population prior to the pandemic:
GAD mean score of 3.54 (SD = 3.32),
i.e. no anxiety

POSTCOVID-AI study:
GAD mean score of 5.95 (SD = 4.85),
which indicates a mild level of anxiety

RESULTS

PRELIMINARY OUTCOMES



General population prior to the pandemic:
PHQ mean score of 2.91 (SD = 3.52),
i.e. normal or minimal depression

POSTCOVID-AI study:
PHQ mean score of 6.86 (SD = 4.72),
reflecting a mild level of depression

CONCLUSIONS

TAKE HOME MESSAGE

POSTCOVID-AI can help identify qualitative indicators via real-time acquisition and analysis of social, behavioral, and emotional data

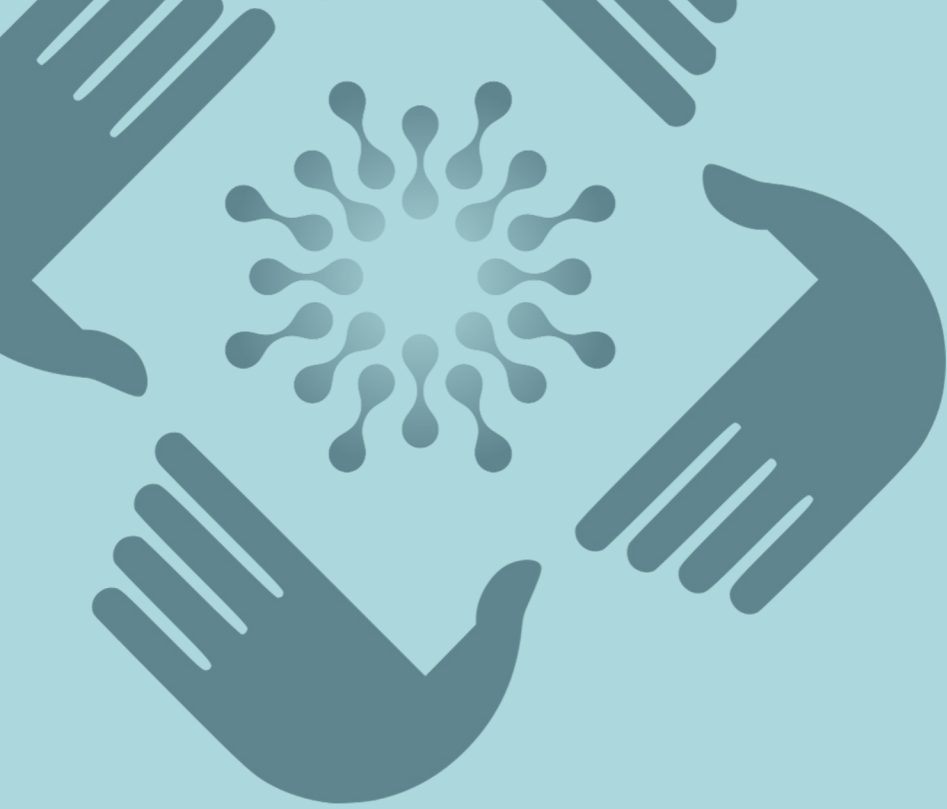


An initial population study has been conducted to create a unique public longitudinal dataset exploring group well-being in a multimodal way



Preliminary results corroborate the general perception on the mental effects of the pandemic





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Thank you for your attention.

