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Conference Reports

Conference Report on the 2024 International Conference on Artificial Intelligence for Mental Health (ICAIMH 2024)

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The International Conference on Artificial Intelligence for Mental Health (ICAIMH) 2024 took place from July 1 to July 4, 2024, at the Holiday Inn in Mérida, Yucatán, Mexico. This second edition of ICAIMH built upon the success of its inaugural conference, which was also held in Mérida, at the Tecnológico Nacional de México/Instituto Tecnológico de Mérida. The central theme of the conference, *How artificial intelligence (AI) can benefit mental health*, brought together experts and practitioners from diverse disciplines, including AI, computing, psychology, psychiatry, and healthcare. By fostering interdisciplinary collaboration, ICAIMH 2024 sought to advance innovative solutions for mental health challenges, bridging the gap between cutting-edge AI technologies and the pressing needs of mental health care systems.

ICAIMH 2024 was organized by the *Association for the Advancement of Intelligent Applications and Technologies with Social Impact* (Maikron), a non-profit association dedicated to leveraging AI for societal benefits. The event was made possible through the support of key partners, including ICCBR 2024, which served as the principal associated conference, alongside the AAAIMX Mexican Student Chapter, the ACM ITM Student Chapter, Universidad Complutense de Madrid, Centro de Investigación y de Estudios Avanzados (CINVESTAV), CentroGeo, Tecnológico Nacional de México/Instituto Tecnológico de Mérida, and Jarkol Technologies.

The program committee played a critical role in shaping the conference's agenda and ensuring its academic rigor. Members of the committee included Esperanza Carolina Orozco-del-Castillo, Juan Carlos Valdiviezo-Navarro, Carlos Bermejo-Sabbagh, Nora Cuevas-Cuevas, Rasikh Tariq, and Pedro Ortiz-Sánchez, whose combined expertise spanned multiple disciplines relevant to AI and mental health. This year's conference also featured a special collaboration with ICCBR 2024, introducing a dedicated topic on Mental Health within the "Special Track on Artificial Intelligence for Socio-Ecological Welfare." Accepted works from ICAIMH 2024 were published as part of the ICCBR 2024 Workshops Proceedings in CEUR-WS (https://ceur-ws.org/Vol-3708/), which is indexed in Scopus, further enhancing the visibility and academic impact of the research presented.

ICAIMH 2024 featured a carefully curated program of keynote lectures, showcasing the expertise of distinguished speakers from renowned institutions. The conference opened on July 2 with three thought-provoking

Figure 1. Official banner of ICAIMH 2024. On the left, the ICAIMH logo depicts a brain encased within a protective technological framework, symbolizing the role of AI as both an enabler and a safeguard for mental health advancements. On the right, the 2024 edition logo showcases a jaguar, a revered figure in Mayan culture often associated with strength, protection, and deep introspection, highlighting the connection between cultural heritage and mental health.

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Figure 2. Lecture by Prof. Enrique Sucar-Succar

talks. Prof. Enrique Sucar-Succar, from the Instituto Nacional de Astrofísica, Óptica y Electrónica, delivered the first keynote, "Gesture Therapy: From Motor Rehabilitation to Cognitive Stimulation," which explored the potential of AI-driven therapies for cognitive and physical recovery. The second keynote, presented by Dr. Israel Sánchez-Domínguez of the Universidad Nacional Autónoma de México, focused on "IoT as a Measurement and Monitoring Tool," highlighting the integration of IoT technologies for mental health applications. Dr. José Luis Batún-Cutz, from the Universidad Autónoma de Yucatán, closed the day with an insightful analysis, "Suicides in Yucatán from 2012 to 2022: An Analysis Using MCA and Stochastic Modeling," emphasizing the role of advanced modeling in understanding mental health trends.

On July 3, the program continued with two captivating talks. Dr. Eduardo Barbará-Morales, from Universidad Anáhuac Mayab, presented "Image Biomarkers and Their Applications in Artificial Intelligence for Characterizing Morphological Changes Associated with Alzheimer's Disease," which demonstrated the intersection of neuroimaging and AI in addressing neurodegenerative disorders. The second keynote of the day, delivered by Dr. Luis Alberto Muñoz-Ubando of the Instituto Tecnológico y de Estudios Superiores de Monterrey, titled "Advanced Telerobotics: From EEG to Imaginary Language and Action," explored the applications of telerobotics in mental and cognitive health.

Unfortunately, due to the imminent arrival of Hurricane Beryl, a Category 2 storm forecasted to impact the Yucatán Peninsula on July 5, 2024, the conference organizers made the decision to cancel the sessions scheduled for July 4. This precautionary measure was taken to ensure the safety of all participants and speakers. The canceled sessions included the talks "Your Emotions Are Trying to Tell You Something, Do You Know What It Is?" by Dr. Esperanza Carolina Orozco-del-Castillo from CINVESTAV, and "Second Victims, Who Cares for Those Who Care?" by Dr. Ana María Martín-Casado from Universidad Internacional de la Rioja and Hospital Universitario de Guadalajara.

ICAIMH 2024 attracted a total of 100 registered attendees, reflecting a diverse and interdisciplinary audience committed to advancing the intersection of AI and mental health. Participants represented a wide range of affiliations, including esteemed academic institutions such as the Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE), Universidad Nacional Autónoma de México (UNAM), Universidad Autónoma de Yucatán (UADY), TecNM/ITM and Universidad Anáhuac Mayab. Other notable attendees included professionals from healthcare organizations like the Instituto Mexicano del Seguro Social (IMSS) and the Secretaría de Salud de Yucatán, as well as members of public service institutions such as the Ayuntamiento de Mérida and DIF Mérida.

Figure 3. Lecture by Prof. Israel Sánchez-Domínguez

Figure 4. Lecture by Prof. Luis Alberto Muñoz-Ubando

Importantly, ICAIMH 2024 was free of charge, making it accessible to anyone interested in the intersection of AI and mental health. This open format encouraged participation from a wide array of attendees, including students, researchers, practitioners, and members of the general public, fostering a truly inclusive and collaborative environment. The event's accessibility contributed significantly to the diversity of perspectives represented and the richness of the discussions.

The conference also welcomed participants from private industry, including representatives from MID Data Solutions, SATEC Mexico, and Diagnósticos Biometh, alongside independent practitioners and researchers. This diversity spanned academia, healthcare, public services, and industry, fostering an interdisciplinary environment conducive to meaningful collaboration. The broad participation emphasized the relevance of AI in mental health across multiple sectors and highlighted the conference's ability to bring together experts from varied backgrounds to address pressing challenges in mental health.

ICAIMH 2024 showcased a rich and interdisciplinary program centered on the theme of leveraging AI to address pressing mental health challenges. The conference explored a wide array of focus areas, including AI-driven prevention, detection, and treatment of mental health

conditions, the use of chatbots and intelligent agents for mental health support, IoT applications for biomarker monitoring, and advanced neuroimaging techniques for analyzing morphological changes in neurological disorders.

The program's interdisciplinary nature was evident in the range of speakers and sessions, which bridged the fields of AI, psychology, psychiatry, and public health. Keynotes and discussions highlighted the integration of AI technologies with practical applications in mental health, fostering collaborations between technologists and mental health professionals. This emphasis on cross-disciplinary dialogue created a unique platform for sharing insights and addressing complex mental health issues.

The success of ICAIMH 2024 would not have been possible without the contributions and support of numerous individuals and organizations. We extend our heartfelt gratitude to the *Association for the Advancement of Intelligent Applications and Technologies with Social Impact* (Maikron) for spearheading the organization of the event and ensuring its alignment with the overarching mission of leveraging AI for societal benefit. Special thanks go to the program committee members whose expertise and dedication shaped the program's academic rigor and inclusivity.

We are deeply grateful to our keynote speakers, who shared their valuable insights and expertise, enriching the conference with their thought-provoking presentations. Their contributions highlighted the transformative potential of AI in addressing complex mental health challenges.

We also acknowledge the critical support of key partners, including ICCBR 2024, whose collaboration provided a unique opportunity to integrate ICAIMH 2024 submissions into its Special Track. The additional partners played significant roles in ensuring the conference's success.

Finally, we thank the institutions, organizations, and individuals from academia, healthcare, public services, and industry who participated in the event, fostering an environment of collaboration and interdisciplinary engagement. ICAIMH 2024 exemplified the power of collective effort and the importance of bringing together diverse perspectives to address the pressing challenges at the intersection of AI and mental health.

ICAIMH 2024 highlighted the transformative potential of AI in addressing critical mental health challenges, reinforcing the importance of interdisciplinary collaboration between AI researchers, mental health professionals, and industry practitioners. The conference demonstrated how cutting-edge AI technologies, such as intelligent agents, IoT applications, and advanced neuroimaging techniques, can revolutionize mental health care by enhancing prevention, detection, and treatment strategies. The discussions and presentations urged the need for ethical and human-centered approaches to ensure these innovations benefit individuals and communities in meaningful ways.

Figure 5. Prof. Eduardo Barbará-Morales receiving the certificate after his keynote lecture

Figure 6. Lecture by Prof. José Luis Batún-Cutz

The event's major takeaway was the recognition that bridging the gap between AI and mental health care requires not only technical advancements but also a sustained effort to foster collaboration across diverse fields. By providing a platform for dialogue and knowledge exchange, ICAIMH 2024 contributed to building a stronger, more integrated community dedicated to tackling mental health issues with innovative and impactful solutions.

Looking ahead, ICAIMH is excited to announce its return to Mérida, Yucatán, for its third edition in July 2025. Building on the success of this year's conference, ICAIMH 2025 will continue to explore the intersection of AI and mental health, fostering interdisciplinary collaboration and driving progress in this vital area of research. For more information about ICAIMH, please visit the official website at www.icaimh.org, or learn more about the upcoming 2025 edition at www.icaimh.org/2025. We look forward to welcoming participants from around the world to join us once again in Mérida for another inspiring and impactful event.