Press release

DIGITAL HEALTH RESEARCHER MARTIN BAUMGARTNER WINS THE AIT POSTER AWARD 2024

The annual AIT Poster Award promotes the entrepreneurial spirit of young researchers from Austria's largest non-university research institution, the AIT Austrian Institute of Technology. In this competition, they present their innovative projects and demonstrate their benefits for the general public.

"Innovative research is not an end in itself, but needs economic utilisation potential in order to benefit the general public. The AIT Austrian Institute of Technology organises the annual AIT Poster Award in order to instil this know-how in young researchers as early as possible," says Alexander Svejkovsky, Managing Director of the AIT Austrian Institute of Technology. This year, eleven diploma students, doctoral students and junior scientists from six AIT centres took part in the **AIT Poster Award 2024.** The winners were honoured at the AIT Poster Award Ceremony on 23 May 2024. "The AIT is committed to excellent research and its implementation for the economy and for the benefit of society," emphasises **Svejkovsky**. Since its launch in 2010, the award has been supported by the Lower Austrian tech incubator accent and the venture capital fund tecnet equity. These partnerships are essential for the success of the competition.

First place in the Digital Health category went to **Martin Baumgartner** from the **AIT Centre for Health & Bioresources**. The AIT Digital Health team has developed so-called "Health Data Space Nodes", which enable the decentralised harmonisation of patient data from various sources (healthcare facilities, fitness wearables, etc.) in order to improve patient care through AI-supported diagnostic tools. This technology uses advanced de-identification techniques to ensure data privacy and make the data usable for research purposes. This innovation represents a further development in healthcare and enables more precise predictions of patient outcomes and thus an improvement in quality of life. Future developments should extend the application of this technology to other medical areas in order to utilise the full potential of AI.

"Results from research and development are central to successful value creation. At tecnet, we support AIT scientists in developing suitable commercialisation strategies and finding suitable financing. Knowledge about the commercial utilisation of research should be anchored in young talents as early as possible," explains **Doris Agneter**, Managing Director of the **venture capital fund tecnet equity**.

"Even outstanding scientific work is of little use if it is not presented in such a way that industry recognises its potential," adds **Michael Moll**, Managing Director of **accent Inkubator GmbH.** "As a Tough Tech Incubator, accent supports projects in successfully transforming their innovative technologies into start-up business models."

AI-controlled VR training for emergency services

Second place went to **Olivia Zechner** from the AIT **Centre for Technology Experience**, who presented an innovative approach to improving virtual reality (VR) training for first responders (e.g. police, paramedics, firefighters). The aim is to provide personalised, tailored training using new technologies in combination with biosignals. The developed training system uses artificial intelligence (AI) to create dynamic, stress-conscious training scenarios by monitoring physiological signals such as heart rate and heart variability of the participants in real time and recording this data. A real-time stress indicator and intelligent scenario control that adapts to the trainee's stress level are used to optimise learning outcomes. The trainees are equipped with wearable technology (e.g. chest strap with sensors or smartwatch) to continuously collect and transmit data in real time. This provides the trainers with objective data that can be used for debriefing and feedback to the trainees immediately after the training.

CASSANDRA - Holistic view of critical infrastructure structures

Third place went to CASSANDRA, a simulation tool for cascading effects in complex networks, by **Manuel Egger** from the **Centre for Digital Safety & Security**. CASSANDRA plays a central role in the risk management of critical infrastructures, particularly in the context of the NIS2 and RKE directives. In view of increasing networking and digitalisation, infrastructures must be viewed holistically in risk management, as problems in one infrastructure inevitably affect others. CASSANDRA enables a better understanding and awareness of problematic cascading effects in complex networks. The tool simulates the reactions of the entire mapped network to incidents and supports critical infrastructures in minimising the negative effects of common threats. The web-based application offers easy access as well as detailed statistics and visualisations of the simulation results.

Spin-offs as drivers of innovation

"The AIT has successfully initiated seven spin-offs in the last three years, two of them last year. Further spin-offs are already in the pipeline and we have concrete ideas for future projects. Thematically, we are very broadly positioned - from the life sciences to the platform economy to tool development for urban planning. We work closely with other research players, financiers and partners in the Austrian spin-off landscape. We live these collaborations very intensively in order to maximise the innovative strength and success of our spin-offs," explains **Managing Director Svejkovsky**.

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