INFORMATION, COMMUNICATION & COMPUTING

Fields of Expertise TU Graz

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Kay Uwe Römer,
Source: Lunghammer – TU Graz

Many research conferences feature a forum for PhD students, where they can present their research plans and get feedback from international experts.

However, the non-technical challenges many PhD students encounter such as how to handle stress induced by high expectations and deadlines, overcoming motivation crises when things don't go as planned, or how to master cooperation in a team with different cultural/disciplinary backgrounds are rarely addressed by such PhD fora. Motivated by this observation, I co-organized with several colleagues a PhD School & Community Event at the International Conference on Embedded Wireless Systems and Networks (EWSN) in December 2024 that focused especially on such non-technical challenges encountered by young PhD researchers as well as early-stage postdocs and young faculty members. This format apparently resonated well with the needs of the international community of young researchers, as the number of applicants was roughly doubled compared to past versions which focused on the technical and research challenges during the PhD. Not only could the participants discuss their non-technical challenges individually with the participating experts, but different formats such as an expert panel, keynotes, and a "Mentimeter" session allowed advice to be shared with the whole conference audience. Simone Silvestri, who also runs the YouTube channel CSMentor on related topics, gave a very inspiring keynote summarizing challenges and advice for PhD students, from how to choose the right thesis supervisor, how to align the PhD goals with long-term career aspirations, and how to avoid common pitfalls among which impostor syndrome stands out as a prevalent issue in academia, often undermining confidence and mental health. In summary, the aspect of non-technical challenges deserves more attention in PhD education, also the doctoral education at TU Graz could surely benefit.

In this edition of TU Graz Research, Alexander Plopski, gives us some insights on his research. Enjoy reading!

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Alexander Plopski

The Future of Augmented Reality Interfaces

The benefits of Augmented Reality (AR), also known as Mixed or Extended Reality, have been confirmed in many studies in various fields. As such, it is no surprise that many industries expect a great benefit from this technology with the expected market to be over 300 billion USD by 2030.

Presenting computer generated content directly in the user's view on a head-mounted display (HMD), instead of on a monitor or a handheld device, offers the most compelling vision of the future of Augmented Reality. However, despite global interest and ongoing research in academia and industry, many hurdles must be overcome before the vision of its everyday use becomes reality.