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Making Sound Visible: Students Discover the Acoustic Camera on Girls'Day

As part of this year's Girls'Day, 14 students had the exciting opportunity to explore innovative technologies developed by the Society for the Promotion of Applied Computer Science (GFaI). During the event, participants visited four interactive stations that provided hands-on insights into real-world research applications. One of the highlights: the Acoustic Camera from gfai tech – a unique measurement system that makes sound visible.

Much like a thermal imaging camera visualizes temperature distribution, the Acoustic Camera displays the direction and intensity of sound sources. The system is based on a so-called microphone array – a carefully arranged cluster of microphones that simultaneously capture sound signals. These signals are then processed using specialized software to create an acoustic image, which is displayed in color on a monitor.

Hands-on Experiments: The Acoustic Camera in Action

In a series of engaging experiments, the students were able to try out the Acoustic Camera themselves. In one task, they determined the direction of a hand clap – a challenge for the human ear, but no problem for the camera. In another experiment, they had to identify which of three visually identical speakers was playing music. Finally, the students created sounds themselves – by clapping, speaking, or making other noises – and observed live on screen how their sounds were transformed into colorful acoustic images.

Further Insights into Research

In addition to the Acoustic Camera, the students explored other exciting research projects at GFaI. Particularly fascinating were the stations on 3D image processing and industrial image analysis, which illustrated additional areas of applied computer science.

About gfai tech

gfai tech GmbH is a German company specializing in innovative sound and vibration measurement and analysis solutions. We offer advanced Acoustic Cameras, comprehensive analysis software, and cutting-edge structural dynamics solutions. Our expertise spans

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various industries, helping customers achieve noise reduction, false detection, sound design improvement, and precise vibration monitoring. As a subsidiary of GFaI e.V., we provide unique hardware, software, and customized customer solutions backed by global support.

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High resolution images can be provided upon request.