MIRMI Newsletter 2022 - February

Dear Readers,

Your MIRMI newsletter is back with the most important news from our robotics and machine intelligence community. In this first issue of the year, we have summarized MIRMI's most important projects and activities in 2021 in our annual report, as well as highlights of the first weeks of 2022.

Have fun reading and best regards,
Your MIRMI Team!

Community
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09. February 2022

"What does society need from us?"

Prof. Urs Gasser is the founding dean of the new School of Social Sciences and Technology at the Technical University of Munich (TUM) and is also the rector of the Hochschule für Politik München. In this interview, he explains why values and technology must be treated as inseparable.

03. February 2022

TUM Center for Responsible AI Technologies founded

By today's signing of their cooperation agreement, the Technical University of Munich (TUM), the University of Augsburg (UNIA), and the Munich School of Philosophy (HFPH) have laid the foundation stone for the joint "Center for Responsible AI Technologies", which will bring philosophical, ethical and social science issues into the development of AI technologies in an integrated approach to research.

03. February 2022

TUM healthcare robot GARMI successfully presents trophies at the Kandahar Race

To contribute to people's safety in times of COVID-19, the service robot GARMI presented the trophies to the winners of the world-famous Kandahar Alpine Ski World Cup – Women on 29. - 30. Jan. in Garmisch-Partenkirchen. During the anthems, he waved the victor's flag. The team of the Geriatronics Research Center adapted GARMI to lift bi-manually up the 5-Kg Kandahar stone in a challenging outdoor environment.

20. January 2022

Prof. Nassir Navab named IEEE Fellow 2022

The Institute of Electrical and Electronics Engineers (IEEE) has chosen Prof. Nassir Navab as an IEEE Fellow for 2022. Navab is head of the Chair for Computer Aided Medical Procedures and Augmented Reality at TUM. The IEEE recognizes Navab's outstanding achievements in augmented reality-based applications in medicine and computer-aided interventions.

10. January 2022

"Formula 1 could see driverless race cars as early as 2025"

A TUM Team has developed software that lets race cars compete in motorsports without a driver. The TUM Autonomous Motorsport Team was able to take 1st and 2nd place at the Autonomous Challenges in Indianapolis and most recently at the CES in Las Vegas. Does this technology have the potential to revolutionize racing? Markus Lienkamp, Professor for automotive technology, tells us the answer.

03. January 2022

Two new startup-funding projects to develop the AI ecosystem in the greater Munich area

The German federal government and the Free State of Bavaria created two new offers for startup projects based on AI and intelligent robotics, AI+MUNICH and Robo.Innovate. The first aims to develop and scale AI start-up ideas, and to accelerate the transfer of AI research from universities to industry. It will be coordinated by MUC SUMMIT GmbH. The second will help pre-startup teams to have access to infrastructures (including a development lab for robot apps), technological teaching and training, as well as customized training programs in entrepreneurship and venturing. Robo.Innovate will be implemented by the Munich Institute of Robotics and Machine Intelligence (MIRMI) of TUM.

29. December 2021

Robots collect underwater litter

Removing litter from oceans and seas is a costly and time-consuming process. As part of a European cooperative project, a team at TUM is developing a robotic system that uses machine learning methods to locate and collect waste underwater.

23. December 2021

MIRMI Annual Report 2021

MIRMI reached crucial milestones thanks to the continuous commitment of all its members and the support of the MIRMI administrative team in 2021. Thanks to the Science Board, which presented its strategy to the TUM President in spring and also advocated for incentives for the MIRMI community on this occasion, MIRMI will be able to award our own seed funds for integrative research for the first time in the history of the Institute. The double-counting of the third-party funds (raised by MIRMI PIs) at MIRMI and Home School is another one of these milestones. Beyond that, some PIs jointly launched the next lighthouse initiative KI.FABRIK in the field of "Future of Work" as well as the research hub "6G-Life" and the strategic LMU-TUM forum "OneMunich". Also for the first time since MIRMI was founded, many of our members actively joined us at the premiere of the fully digital munich_i as part of the automatica sprint, including a high-tech summit, virtual trade fair, and Robothon - to be continued in 2022! All of this is compiled in the first edition of a MIRMI annual report.

15. December 2021

New drone type transports life-saving defibrillator

For cardiac arrest victims, minutes can mean the difference between life and death. It's vital that medical emergency response teams get to them quickly, but in more remote, rural areas this can sometimes be difficult. "HORYZN" is an initiative of students of the Institute of Flight System Dynamics, chaired by Prof. Florian Holzapfel, at TUM and has developed a remote-controlled, AI-supported rescue drone with a defibrillator on board for just such emergencies.

14. December 2021

Another 6 million euros for Corona research projects in Bavarian university medicine

The Bavarian State Ministry of Science and the Arts is launching a new funding program to strengthen corona research at medical faculties and university hospitals in Bavaria. This was announced by Science Minister Bernd Sibler in Munich in mid-December. According to Sibler, the funding volume totals 6 million euros.

13. December 2021

Deep insights in skin imaging

A method to shed unprecedented views into skin diseases: That was the goal when the INNODERM project was launched in 2016 under the leadership of TUM. It has yielded a novel imaging modality that can see deeper and with higher discrimination beneath the skin surface than any competing method today. The project has now been chosen as the winner of the European Commission's 2021 ECS Innovation Award.

03. December 2021

TUM Sustainability Award for Prof. Fröhling and Prof. Johannes Fottner

Prof. Johannes Fottner and Professor Magnus Fröhling received the TUM Sustainability Award on behalf of the CirculaTUM research network during the Dies Academicus. The interdisciplinary network was founded to bundle the diverse competencies of TUM for a resource-efficient circular economy and to actively contribute to the corresponding industrial and societal transformation. The prize honors research work, technical innovations, and approaches to solutions that can make decisive contributions to the sustainable transformation of the economy and society and to overcoming the climate crisis. The award is endowed with 10,000 euros.

Events and Calls

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18. February 2022

Guided tour of the exhibition AI.ROBOTICS.DESIGN at the Pinakothek der Moderne

The exhibition AI.ROBOTICS.DESIGN. explores the origins, history, current developments, and the future of robotics and AI in four chapters. Planned by Prof. Sami Haddadin and implemented with his team, the exhibition will run from 16. July 2021 until 18. September 2022 in the New Collection section of the modern art museum Pinakothek der Moderne in Munich. Special guided tours with the scientist are available monthly.

28. February 2022

New Application Deadline for MIRMI Seed-Funds – 1. Round

MIRMI will support the kick-off of innovative research projects via Seed Funds. The MIRMI Seed-Funds aim to stimulate new collaborations within the Integrative Research Institute (IRI) by supporting collaborative projects in the field of robotics and machine intelligence. Successful projects will receive funds for up to two (post)doctoral researchers (E13 50%) for up to six months duration. The plan is to hold a seed funding round every 6 months. The first round of MIRMI Seed Funds is open until 28.Feb.2022.

14. March 2022

Upcoming TUM Distinguished Lecture Series on AI and Healthcare

The TUM Distinguished Lecture Series on AI & Healthcare is a bi-weekly lecture series taking place on Mondays from 16:00-17:00 (CET) on Zoom. International experts and pioneers in the field will present their research. Everyone who is interested in the topic is cordially invited.

14. - 23. March 2022

DATE 22: Design, Automation, and Test in Europe Conference

DATE conference brings together designers and design automation users, researchers, and vendors, as well as specialists in the hardware and software design, test, and manufacturing of electronic circuits and systems. DATE puts a strong emphasis on both technology and systems, covering ICs/SoCs, reconfigurable hardware and embedded systems, and embedded software. Online Event.

31. March 2022

Application deadline for Paired Early Career Fellowship in Applied Research (PECFAR) given by the IGSTC

The Indo-German Science & Technology Centre (IGSTC), established as a joint initiative of the Department of Science and Technology (DST), Government of India, and the Federal Ministry of Education and Research (BMBF), Government of Germany, invites applications for Paired Early Career Fellowship in Applied Research (PECFAR) from early-career Indian and German researchers to explore, connect and network for research collaboration. If you are interested, please contact community@mirmi.tum.de to provide you with the contact data of a potential Indian fellow.

01. April 2022

Application deadline for EuroTech Visiting Researcher Program

EuroTech is launching a new visiting researcher program to fund short-term research stays (1-4 weeks) at one of the EuroTech partner institutions. The program particularly seeks to incentivize new collaborations in the EuroTech Focus Areas Entrepreneurship & Innovation; Additive Manufacturing; AI for Engineering Systems; Health & Bioengineering and Sustainable Society. All TUM professors are eligible to submit applications; this call will typically provide funding to cover travel and accommodation expenses of up to 1,000€/week. Please submit your application to globalfunds@tum.de

Recommended Readings

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How NFTs could transform health information exchange
By Kristin Kostick-Quenet, Kenneth D. Mandl, Timo Minssen, I. Glenn Cohen, Urs Gasser, Isaac Kohane, and Amy L. McGuire.

Mechatronics and Automation for Constructions
By Chien Chern Cheah, Thomas Bock, Jianfu Cao, Thomas Linner, Yun-Hui Liu, Atsushi Yamashita, and Liman Yang.

"Hier ist Querdenken erwünscht" – Prof. Klaus Diepold
By Sabine Buchwald

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