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Systematic Innovation Partnerships with Artificial Intelligence and Information Technology

Robert Nowak, Jerzy Chrzęszcz, Stelian Brad

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Robert Nowak · Jerzy Chrząszcz ·
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Systematic Innovation Partnerships with Artificial Intelligence and Information Technology

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Proceedings

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Preface

The Theory of Inventive Problem Solving (TRIZ) is popular creative thinking and systematic organizing knowledge methodology. It is a scientifically grounded and structured approach for forecasting the evolution of technological systems, and includes numerous tools and methods for product and process innovation, enabling an increase in creative and inventive productivity.

The European TRIZ Association (ETRIA) World Conference TRIZ Future (also known as the International TRIZ Future Conference, TFC) is traditionally a fundamental venue for disseminating information about TRIZ. TFC has reached its 22nd edition (TFC22) which took place in Warsaw, Poland, during September 27–29, 2022. The conference was organized at the Faculty of Electronics and Information Technology, Warsaw University of Technology, in Warsaw, Poland by the Artificial Intelligence Division. The conference motto is ‘Systematic Innovation partnerships with AI and IT’, which highlights the main idea of this event: to join TRIZ with Information Technology (IT) and Artificial Intelligence (AI).

Information Technology (IT) and Artificial Intelligence (AI) achieve many goals. It is worth noting that thoughtlessly comparing artificial intelligence to human intelligence may be a source of misunderstandings and confusion. Computers are only machines that, to some extent, should be viewed as fast-acting calculators that can only perform simple operations on binary numbers. Despite the huge successes, scope and scale of their applications, it is not without reason that computers are sometimes called ‘stupid automatons’. It is impossible for any program executed by a computer to become a unit autonomous enough to execute something other than its creator, a computer scientist, originally designed. The success of IT and AI is the success of the creativity of computer scientists, which now needs the support of TRIZ.

After disrupting the traditional format of the TFC 2020 and TFC 2021 conferences, TFC 2022 was provided in a hybrid form, which included seeing each other face-to-face as well as participating online.

Despite the focus on joining TRIZ and IT and AI, other topics typically linked with TRIZ and protagonists of previous TFC editions were still accepted. All 39 papers published in this book were at least triple peer-reviewed by several members of the Scientific Committee, and the authors had the chance to improve their papers based on these reviews before the final decision. The papers were presented during the TRIZ Future Conference 2022, a lively discussion followed the presentation.

August 2022

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