Emanuele De Angelis
Wim Vanhoof (Eds.)

Logic-Based Program Synthesis and Transformation

31st International Symposium, LOPSTR 2021
Tallinn, Estonia, September 7–8, 2021
Proceedings

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Preface

This volume contains a selection of the papers presented at LOPSTR 2021, the 31st International Symposium on Logic-Based Program Synthesis and Transformation held during September 7–8, 2021, as a hybrid (blended) meeting, both in-person (at the Teachers' House in Tallinn, Estonia) and virtually, and co-located with PPDP 2021, the 23rd International Symposium on Principles and Practice of Declarative Programming.

Previous LOPSTR symposia were held in Bologna (2020 as a virtual meeting), Porto (2019), Frankfurt am Main (2018), Namur (2017), Edinburgh (2016), Siena (2015), Canterbury (2014), Madrid (2013 and 2002), Leuven (2012 and 1997), Odense (2011), Hagenberg (2010), Coimbra (2009), Valencia (2008), Lyngby (2007), Venice (2006 and 1999), London (2005 and 2000), Verona (2004), Uppsala (2003), Paphos (2001), Manchester (1998, 1992, and 1991), Stockholm (1996), Arnhem (1995), Pisa (1994), and Louvain-la-Neuve (1993). More information about the symposium can be found at: http://saks.iasi.cnr.it/lopstr21/.

The aim of the LOPSTR series is to stimulate and promote international research and collaboration on logic-based program development. LOPSTR is open to contributions in logic-based program development in any language paradigm. Topics of interest cover all aspects of logic-based program development, all stages of the software life cycle, and issues of both programming-in-the-small and programming-in-the-large, including synthesis; transformation; specialization; composition; optimisation; inversion; specification; analysis and verification; testing and certification; program and model manipulation; machine learning for program development; verification and testing of machine learning systems; transformational techniques in software engineering; and applications and tools. LOPSTR has a reputation for being a lively, friendly forum for presenting and discussing work in progress. Formal proceedings are produced after the symposium so that authors can incorporate this feedback in the published papers.

In response to the call for papers, 16 contributions were submitted from authors in 10 different countries. One of the submissions was withdrawn by the authors, and each of the remaining submissions was reviewed by three Program Committee members or external referees. The Program Committee accepted one full paper for immediate inclusion in the formal proceedings; nine more submissions were selected for presentation at the symposium. In addition, the symposium program included the joint PPDP-LOPSTR invited talks by Harald Søndergaard (University of Melbourne, Australia) and Stephen Wolfram (Wolfram Research, UK). After the symposium, the authors of the contributions accepted for presentation were invited to revise and extend their submissions. Then, after another round of reviewing, the Program Committee accepted seven more full papers for inclusion in the formal proceedings. In addition to the eight accepted papers, this volume includes the paper contributed by the invited speaker Harald Søndergaard: "String abstract domains and their combination".

Thanks to Springer's sponsorship, LOPSTR 2021 featured a best paper award. The Program Committee assigned the award to "Disjunctive Delimited Control" by Alexander Vandenbroucke and Tom Schrijvers.

We want to thank the Program Committee members, who worked diligently to produce high-quality reviews for the submitted papers, as well as all the external reviewers involved in the paper selection. We are very grateful to the Local Organization Committee, chaired by Niccolò Veltri, for the great job they did in managing the hybrid in-person and virtual event. We are grateful to EasyChair for providing support to deal with the submission and reviewing process. Special thanks go to all the authors who submitted their papers to LOPSTR 2021, without whom the symposium would have not be possible. Emanuele De Angelis is member of the INdAM Research group GNCS. Wim Vanhoof is a member of the Namur Digital Institute (NADI).

February 2022   Emanuele De Angelis
                                                                        Wim Vanhoof

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