The FMCAD 2021 Student Forum

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***Abstract*—The Student Forum at the International Conference on Formal Methods in Computer-Aided Design (FMCAD) gives undergraduate and graduate students the opportunity to engage with to the Formal Methods community by presenting their working and receiving feedback. The Student Forum was held in a hybrid format, with some students participating in limited in-person events in New Haven, Connecticut, USA.**

The Graduate Student Forum was first introduced in 2013 to the FMCAD conference series. The goal of the Forum is to enable graduate students to attend the conference, even if they do not have a paper accepted at the main conference track. Students were attracted with an opportunity to present their on-going work to a broader scientific audience and receive valuable feedback about the research they are currently pursuing.

FMCAD 2021 hosted the ninth edition of the Student Forum. There was an open call for papers from both undergraduate and graduate students working broadly in the area of Formal Methods. In the call, students were asked to submit a 2-page summary of their current research and on-going work. We received a number of high quality submissions to the Student Forum and accepted a total of 10 submissions. Reviews were based on the overall quality and novelty of work, the potential for impact of the work on the field of Formal Methods, as well as the potential positive impact on the student to have the opportunity to participate in the forum.

This year, the Student Forum allowed for the submission of joint research where two student researchers collaborated and contributed equally in the eyes of their advisors. The topics covered by the accepted submissions ranged across the field of Formal Methods, including foundational advancements as well as a variety of application domains. The accepted submissions are listed below with their respective student authors:

- Wonhyuk Choi: *Can Reactive Synthesis and Syntax-Guided Synthesis Be Friends?*
- Shmuel Berman: *Programming-By-Example by Programming-By-Example: Synthesis of Looping Programs*
- Ameer Hamza: *Automated Alignment for Equivalence Checking*
- Amitash Nanda: *NeuCASL: From Logic Design to System Simulation of Neuromorphic Engines*
- Guy Amir: *Verifying Deep Reinforcement-Learning Systems*
- Ori Lahav: *Neural Network Simplification using Formal Verification*
- Y. Cyrus Liu: *Source-Level Bitwise Branching for Temporal Verification*
- Maxwell Levatich: *Using Z3 to Validate Executions of a Program Partitioner*
- Priyanka Golia: *Boolean Functional Synthesis and its Applications*
- John Hui and Robert Krook: *Toward Sparse Synchronous Computing on Embedded Systems*

This edition of the FMCAD Student Forum follows a series of previous successful iterations of the forum [1]–[8].

We would like to thank the organizers of FMCAD, as well as the entire program committee of FMCAD, who have made the FMCAD student forum possible. Additionally, we are grateful to the student authors and their research mentors who have contributed their excellent work to the program.

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https://doi.org/10.34727/2021/isbn.978-3-85448-046-4_8

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