The FMCAD 2020 Student Forum

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Abstract—The Student Forum at the International Conference on Formal Methods in Computer-Aided Design (FMCAD) allows undergraduate and graduate students to introduce their research to the Formal Methods community and receive feedback. Originally planned to take place in Haifa, Israel, the event was actually run online via video conferencing. Eight students were invited to give a short talk and discuss their work with their peers and FMCAD attendees. The presentations covered a broad range of topics in the fields of verification and synthesis in various application areas.

The Student Forum gives an opportunity to students at any career stage to introduce their research to the audience of the FMCAD conference. The first edition took place in Portland, Oregon, USA in 2013 [6], with subsequent editions held in Lausanne, Switzerland in 2014 [5], Austin, Texas, USA in 2015 [7] and 2018 [4], Mountain View, CA, USA in 2016 [3], Vienna, Austria in 2017 [2], and San Jose, CA, USA in 2019 [1].

As in 2019, the 2020 Student Forum was open to graduate and undergraduate students.[1] The students were invited to submit 2-page reports describing their ongoing research in the scope of the FMCAD conference. Members of the program committee of FMCAD reviewed the reports and accepted eight submissions. The reviews evaluated the novelty of the work, its potential impact on the Formal Methods community, the quality and the soundness of the presentation.

The contributions covered a wide range of topics, from foundational aspects of automated reasoning to applications of Formal Methods to cloud security, neural networks and medicine. The following contributions have been accepted:

- Claudia Cauli: *Formal Threat Modeling in the Cloud*
- Yizhak Elboher, Guy Katz and Justin Gottschlich: *An Abstraction-Based Framework for Neural Network Verification*
- Sibylle Möhle: *(Dual) Projected Propositional Model Counting and Enumeration without Repetition*
- Thomas Pani, Georg Weissenbacher and Florian Zuleger: *Parameterized Program Safety and Liveness via Thread-modular Counter Abstraction*
- Sumanth Prabhu, Grigory Fedyukovich, Kumar Madhukar and Deepak D'Souza: *Specification Synthesis using Constrained Horn Clauses*
- Georg Schuppe: *Compositional Adviser-Strategy Synthesis for Multi-Agent Systems*
- Aalok Thakkar, Kedar Namjoshi and Richard Trefler: *Modular Synthesis of Reactive Systems*

- Daniella Vo and Debashis Sahoo: *Boolean Analysis Reveals Microbes Significant to Inflammatory Bowel Disease*

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