Invitation to a talk

Title: Routability Prediction in Early Placement Stages using Convolution Ne

Presenter: Assoc. Prof. Shao-Yun Fang, Ph.D.
National Taiwan University of Science and Technology

Time, place: Friday, August 31, 2018, 09:00, room 4905
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Abstract:
With the dramatic shrinking of feature size and the advance of semiconductor technology nodes, numerous and complicated design rules need to be followed, and a chip design can only be taped-out after passing design rule check (DRC). The high design complexity seriously deteriorates design routability, which can be measured by the number of DRC violations (DRVs) after the detailed routing stage. Early routability prediction helps designers and tools perform preventive measures so that DRVs can be avoided in a proactive manner. Thanks to the great advance of multi-core systems, machine learning has many amazing advances in the recent years. In this talk, research methodologies leveraging convolutional neural network (CNN) for DRV prediction in both the macro placement and cell placement stages will be introduced.

Bio:

Shao-Yun Fang received the B.S. degree in electrical engineering from National Taiwan University (NTU), Taipei, Taiwan, in 2008 and the Ph.D. degree from the Graduate Institute of Electronics Engineering, NTU in 2013. She is currently an Associate Professor of the Department of Electrical Engineering, National Taiwan University of Science and Technology (NTUST), Taipei, Taiwan. Her current research interests focus on physical design and design for manufacturability for integrated circuits.

Dr. Fang was a recipient of the First Place Winner of the 2012 ACM/SIGDA Student Research Competition (Graduate Student Category), the Silver Award Winner of the 2012 TSMC Outstanding Student Research Award (Category I: Circuit Design Technologies), two Best Paper Awards from the 2016 International Conference on Computer Design (ICCD) and the 2016 International Symposium on VLSI Design, Automation, and Test (VLSI-DAT), and two best paper nominations from the 2012 and 2013 International Symposium on Physical Design (ISPD).