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EE GRADUATE SEMINAR

Applying AI/ML to VLSI CAD



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ABSTRACT

AI has been continuously applied to computer-aided design (CAD) for VLSI chips. In particular, machine learning (ML) enables more accurate predictions of design quality, allowing CAD engines to optimize designs with improved power, performance, area, and cost (PPAC) with fewer design iterations. AI/ML also facilitates design space optimization (DSO), enabling the exploration of vast solution spaces in VLSI design parameters. It can even autonomously execute the physical design stage, achieving plausible results with orders-of-magnitude reductions in runtime. This talk provides an overview of various AI/ML applications in VLSI CAD and discusses the current challenges in the field.