Computerized Proof-Assistants

N. Raja

School of Technology & Computer Science
Tata Institute of Fundamental Research
Mumbai 400 005, INDIA
raja@tifr.res.in
http://www.tcs.tifr.res.in/~raja

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Recent advances in the field of 'Interactive Proof Checking' with the associated development of powerful tools known as 'Proof Assistants' have given rise to an interesting consequence – viz. the practical feasibility of importing techniques developed in the computer science community and redeploying them to improve the main activity of the working mathematician, namely the process of proof development. At the core of such redeployed techniques lie the notions of formal systems, formal reasoning, and formal proofs. However the process of formalizing mathematics is a highly non-trivial task, and gives rise to a number of challenging and interesting issues which need to be addressed in order to make the discipline of machine-supported mathematics more prevalent in the future [1, 2].

References

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[2] Natarajan R., (Ed.), Special issue on interactive theorem proving and verification, *Sadhana*, Vol. **34**, No. 1 (2009) pp. 1–220.