

Dipartimento di Scienze e Tecnologie Aerospaziali

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POLITECNICO DI MILANO



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To whom it concerns.

Ankit Aggarwal was selected by our organization to work within the Google Summer of Code 2015 initiative.

Our organization, the Department of Aerospace Science and Technology of the University "Politecnico di Milano" promotes the development of a free, general-purpose multibody dynamics software called MBDyn <<http://www.mbdyn.org/>>. This software is used for the numerical simulation of several types of problems.

Ankit Aggarwal was assigned the task of working at improving support for parsing of mathematical expressions. In the original implementation, mathematical expressions were parsed and evaluated at the same time. A subsequent development made it possible to repeatedly evaluate expressions during the analysis, but this required the re-parsing of the expressions. Under the project, Ankit Aggarwal separated expression evaluation from expression parsing. During the parsing phase, expressions are now turned into nodes of a tree that can be stored and repeatedly traversed. This made it possible to introduce several optimizations in such operation. No new functionality was added to the code, but substantial optimization of a non-critical operation was achieved.

During the project, I was in charge of mentoring his activity. Through continuous interaction and discussion of technical details and critical evaluation of the code he produced, we were able to achieve the objectives of the project within the expected time schedule. Our organization is completely satisfied by the results obtained during this project. I have the impression that the participation to the project gave to Ankit Aggarwal a valuable opportunity to apply and refine his "hard" programming skills and his "soft" skills associated with cooperating in remotely coordinated activities related to free/open source software development.

This type of activity is very important for our organization. In order to make the point, out of three selected student Ankit Aggarwal is the only one who made it to the end of the GsoC initiative, the other two having been failed at mid-term or at final evaluation.

I would like to recommend Ankit Aggarwal as a skilled programmer, as a hard and dedicated worker, and as a person capable of cooperating in a software development environment.

Sincere regards,

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