

Travel Report from CPC'06

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The International Workshop on Compilers for Parallel Computers (CPC), is a series of workshops which covers all aspects of parallelism and optimizations; from embedded systems to large scale parallel systems and computational grids. This year, the workshop (CPC'06) was organized by the Computer Architecture Group of the University of A Coruña, Spain, and was held between the 9th and 11th of January (2006) in A Coruña.

A Coruña, also called "*a balcony overlooking the Atlantic*" is a town on the Atlantic seaside, located in the Northwest of Spain, and part of the Galicia community. Among things worth seeing in the city is the Tower of Hercules, a two thousand year old lighthouse that is still in use. A Coruña is not far (approximately 60 km) from Santiago de Compostela where, according to the legend, the holy relics of Saint James are kept in the cathedral. A guided visit to the cathedral, Fig. 1, was included in the workshop program.

I had no paper to present at this workshop, instead the purpose with my trip was to get to know the "parallel community" and see if any of the work presented could be of interest for my own research (which up til now has been in the area of programming language semantics).

Although I didn't find any of the presentations directly applicable on our own work there were a lot of interesting presentations and discussions; besides work on different hardware issues (such as cache prediction e.g.) there were presentations on subjects such as instruction scheduling, speculative parallelization, and loop transformations, to name a few.

A reflection I made is that there are a number of projects/research groups working on different aspects of concurrent execution of Java (something that is also emphasized by a special journal issue [1]), ranging from attempts to minimize the actual number of necessary locks in an application, to adapting an existing model (OpenMP) for parallel Java programming. My impression is that the interest for Java (i.e., for parallel execution of Java programs) is due to the fact that the language is explicitly multi-threaded.

A second observations is the usage of genetic algorithms in attempts to generate optimal executables (i.e., as optimal as possible).

A final remark is that there seems to be a lack of existing, suitable applications that can take full advantage of modern, parallel hardware (something that was underlined by some of the speakers).

My overall impression is that it was a very well organized workshop at a very pleasant location. All in combination with a lot of interesting people.



Figure 1: The cathedral of Santiago de Compostela. (Photo by the author.)

References

- [1] M. Moir, N. Shavit and J. Vitek (Editors) *Science of Computer Programming; Special Issue on Concurrency and Synchronization in Java Programs*. 58(3), Dec. 2005.