

James Jablin



Graduate Institution: Brown University

Location: Providence, RI

Graduate Discipline: Computer Science

Hometown: Chambersburg, PA

Research Interests:

My research involves constructing parallelization, analysis, and visualization frameworks for executing applications across heterogeneous distributed systems composed of CPUs, GPUs, and FPGAs. A hybrid approach, exploring potential synergies of these architectures, reveals performance benefits not apparent from each architecture alone. In cooperation, architectures may trend away from general-purpose to achieve higher specialization; each architecture executes a set of subtasks of the application suited to its unique characteristics, thereby improving resource utilization and performance. This work will benefit all types of scientific work wishing to achieve scalable results on large distributed systems.

Additionally, autparallelization carries other significant advantages. Presently, writing parallel programs requires the expertise of elite programmers, a group too few to write tomorrow's applications or retrofit those of yesterday. Rather than adapt a parallel programming paradigm and revise or completely rewrite existing applications, autparallelization can unlock performance in applications written in the current sequential style. Programmers need not switch paradigms and a wider audience can leverage the hardware parallelism abundant in many core machines.

About me:

I am currently a third year Ph.D. student in the Computer Science Department at Brown University. My advisor is Professor Maurice Herlihy. As of summer 2010, I split my time between the university and Los Alamos National Laboratory. At the lab I work with Pat McCormick in CCS-7: Applied Computer Science.

Previously, I earned my bachelors degree in Computer Science from Haverford College in Haverford, PA. While in college I participated on the college's Cross Country/Track and Field Team. In Cross Country I was named to the All-Mideast Regional Team 2005 - 2007 and at Division III Cross Country Nationals the team took third, tenth, and second for the same years. In Spring 2006 I won an Academic All-American Award in outdoor Track and Field in recognition of academic excellence and provisionally qualifying for Nationals in the 10,000m race.



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