

Gregory M. Striemer

Personal Information

MS Student

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Professional Interests

- Many-Core and highly parallelized architecture exploration for bioinformatics and other scientific applications.
- Scientific applications of coarse grained reconfigurable architectures.

Education

- MS in Electrical and Computer Engineering, University of Arizona, Expected Graduation Date: May 2010.
Advisor: Dr. Ali Akoglu.
- BS in Business Management, University of Phoenix. Graduated May 2006.

Computer Proficiency

- Languages: C, C++, Java, CUDA
- Operating Systems: Linux, Unix, Windows XP/Vista
- Hardware/Assembly Languages: MIPS, Verilog
- Tools: MS Publisher, MS Word, MS Excel, MS PowerPoint, MS Visio, Adobe Professional, Xilinx ISE

Projects

Smith Waterman on CUDA

- Reconfigured the Smith-Waterman Algorithm for mapping on the Nvidia Tesla C870 GPU using Compute Unified Device Architecture (CUDA). Achieved speedup of 15 times over serial implementations, with the possibility of achieving well over 30 times speedup in the near future on a single GPU.

Pipelined MIPS Processor

- Implemented a 32-bit pipelined MIPS processor using Xilinx ISE, and synthesized it to a Xilinx Spartan 3 FPGA.

Papers

- *Proposal for Mapping of Smith-Waterman on Compute Unified Device Architecture (CUDA)*. Currently awaiting review from the International Forum on Multi-Core Technologies on decision to publish.
- *Smith-Waterman Sequence Alignment Optimization on Compute Unified Device Architecture (CUDA)*. *Currently in development. Will be sent to IPDPS conference for review and publication.*