George L. Coulouris <george.coulouris@acm.org>

Objective

I apply my knowledge of applied mathematics, software engineering and computer architecture to the design and development of high performance scientific software.

Research interests

- Numerical simulation, modeling, and optimization
- Approximation algorithms
- Machine learning

Skills

- Algorithm development, analysis, and optimization
- Software performance analysis and modeling
- Ten years of development experience, using tools such as gcc/gdb, Microsoft Developer Studio, Intel VTune, DTrace, valgrind, TotalView, Purify, and Apple Xcode/Shark.

Employment

- Senior systems analyst, 7/2001 - present, Lockheed Martin Information Systems & Global Services / National Center for Biotechnology Information, Bethesda, MD. My responsibilities involve biological sequence similarity search algorithm research and development, specifically, as they relate to the Basic Local Alignment Search Tool (BLAST).
- Systems programmer, 8/1998-5/2001, Cornell Theory Center, Ithaca, NY. My responsibilities involved developing parallel tools (batch scheduler, numerical libraries, etc.) for a large Windows-based compute cluster.

Education

- Cornell University, College of Engineering, Bachelor of Science, Computer Science, May 1999
- Johns Hopkins University, Applied and Computational Mathematics, 2007-present

Publications

- Camacho, Coulouris, Avagyan, Ma, Papadopoulos, Bealer, Madden (2009). BLAST+: architecture and applications, BMC Bioinformatics.
- Morgulis, Coulouris, Raytselis, Madden, Agarwala, Schaffer (2008). Database Indexing for Production MegaBLAST Searches, Bioinformatics.
- Bealer, Coulouris, Dondoshansky, Madden, Merezhuk, Raytselis (2004). A Fault-Tolerant Parallel Scheduler for BLAST, Supercomputing 2004, poster exhibit
- Skjellum, Dimitrov, Angaluri, Lifka, Coulouris, Uthayopas, Scott, Eskicioglu (2001). Systems Administration, International Journal of High Performance Computer Applications, Volume 15, No. 2, pp. 143-161
- Coulouris, Heber, Lifka, Pingali, Schneider, Stodghill, Wawrzynek, Zollweg (2000). Parallel FEM Simulation of Crack Propagation on the AC3 Velocity Cluster, The Second Workshop on Cluster-Based Computing.

Professional organizations

Member of the Association for Computing Machinery.