

Curriculum Vitae

Personal Data

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First Name George
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Nationality Greek
Date of birth October 14, 1981
Army duty 2005-2006
Marital
status Single

Contact Information

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Education

2006-2009 MSc Informatics and Telecommunications

Department of Informatics and Telecommunications, University of Athens, Greece

Major: Computational Science

Grade: 7.99/10

Supervisor: Professor Missirlis Nikolaos

Thesis: In this Master thesis the Extrapolated Diffusion (EDF) is studied for load balancing in torus or mesh topology of processors. The innovative of our approach is the use of Fourier analysis. Initially, the theory was developed for tori networks of processors. A comparison with the classical Diffusion (DF) showed that the convergence factor of EDF is smaller than the corresponding factor of DF.

Languages

Greek

Native Speaker

English

Very Good

Cambridge First Certificate in English

1998

Scientific Experience

CNRS, Centre de Calcul de l'Institut National de Physique Nucléaire de Physique des Particules

10/2009-11/2009 Engineer

Description: Increasing the realism of simulated applications

During this period a tool that converts Open Trace Format (OTF) files to SimGrid execution traces was developed. Moreover many scripts were implemented for executing experiments, gathering the results measuring the time as also for comparing the simulation with the real execution. Also many experiments took place for the simulation of NAS Parallel Benchmarks and trying to find any issue about the simulation of computation and communication.

INRIA, Laboratoire de l'Informatique du Parallélisme (LIP), Graal team

03/2009-08/2009 Master student internship

Description: Increasing the realism of simulated applications

Supervisors: Frédéric Desprez and Frédéric Suter

During my internship, I studied many profiling programs in order to choose the appropriate one. PAPI is the best interface for reading the hardware counters and profile any application, but the bytes of communication of the parallel program are also required. Since we are only interested about some specific elements of profiling, there is no need to profile with a very big/advanced profiling-program in order to avoid overhead of profiling as also the difficulty of each usage. In the meantime, I am involved in the profiling of programs such as TAU, Scalasca, Mpitrace, MpiP, HPCtoolkit. It has come to my attention that not every program has an open file format for saving the results in order to edit files as it is desired, thus a comparison of some of them is going to take place. The main objective of this internship is to go a step toward more realistic simulated applications through the following milestones:

- Complete an existing set of basic computation and communication kernels representative of different applicative behaviors.
- Study different profiling tools, such as PAPI and TAU, on the applicative kernels to determine which tool is the most appropriate to fulfill the initial objective.
- Design simulated equivalents of the applicative kernels with SimGrid simulation toolkit.
- Compare the performance of the real and simulated versions of an application on a given platform.

Wolfgang Pauli Institute, Vienna, Austria

3/2008-2/2009 Research assistant

Description: Participation to thematic program «Applied Analysis and Fast Computation in Phase Space». I was involved in the implementation of parallel Wigner and smooth Wigner transform. The scope of our project is to use large signals which can't be computed neither with matlab nor with any other serial library that already exists. We have used programming language C with MPI library, and moreover data input files with matlab were created in order to control the quality of the data. Finally implementation of a parallel program with the combination of C, MPI, bash, awk and Gnuplot was created in order to generate parallel plots.

University of Athens, Department of Informatics and Telecommunications

Research assistant

7/2006-12/2007 University of Athens/program of European Union «Pythagoras I»

Description: Participation to the project «Parallel iterative methods for numerical solution of Convection Diffusion equation, with application to atmospheric models». Implementation of parallel iterative methods such as local modified extrapolated SOR for solving the Convection Diffusion equation. Extended parallel programming for optimization and for measuring the performance of the program.

Teaching Assistant

2005-2007 Numerical Analysis

2006-2007 Discrete Mathematics

University of Ioannina, Department of Mathematics

Teaching Assistant

2004-2005 Database Design

Industry Experience

Hellenic Air Forces

5/2005-8/2005 Army

Description: During my military service at the Hellenic Air Forces I was meteorological observer and I was responsible to give weather information to the pilots of planes which were arrived or departed from the Rhodes island

Hellenic Meteorological Service

11/2003-12/2003 Practical exercise

Description: During my undergraduate studies I did practical exercise at Hellenic Meteorological Service. My job was to develop an information system about staff management. I used PHP for interface and MySQL for the database.

Participation in Workshop

25-27/11/2008 **Applied Analysis and Fast Computation in Phase-Space 2008**

Wolfgang Pauli Institute, Vienna, Austria.

Abstract: In the 90's there as wide interest in the use of Wigner transforms in signal processing, several libraries for their computation are created at that time. However, it is fair to say that these transforms are not widely used today, and one of the reasons is that their computation is 'unreasonably' expensive, when compared e.g. to spectrograms. Motivated by a recent scheme for the simulation of caustic development and propagation, we present a new library for the computation of Wigner and smoothed Wigner transforms.

The main improvement in comparison to the state of the art is a parallelization of all steps of the process (including output, e.g. plotting) which allows a better behavior for much larger signals.

Volunteer Experience

1-4/09/2009	International Conference on Parallel Computing École Normale Supérieure de Lyon, Lyon, France.
Description:	I was volunteer about helping in the organization of the conference Parallel Computing (ParCo) 2009

Parallel Programming

- User of Grid'5000
 - Experience on running parallel programs
 - Experience on deploying images
- Member of HellasGrid, VO SEE
- Excellent skills of programming C with MPI library for parallel programs.
- Very Good skills of programming C with OpenMP and also for Hybrid programming (MPI with OpenMP).
- Personal project, the study of the performance of Cannon's algorithm for matrix multiplication. A mini survey was completed with four clusters.
- Script implementation in bash, awk and sed for running programs in clusters, also for connecting matlab as an interface to clusters.

- Introduction knowledge about programming languages Unified Parallel C (UPC), Chapel and also about CELL programming

Achievements

- Development in PHP numerical methods of linear algebra.
- Development of online application with PHP for finite element analysis. The application solves the system and finds the spring's deformity. There is also graphic representation.
- Application development for staff payment.
- Translation of open source program Z88 for Finite Elements, from English to Greek Language.
- Translation of the book Computer Algebra, Algorithms, Systems and Applications in Greek.

Computer Skills

Programming languages:

C	Expert	Mpi library for parallel programming
PHP	Expert	Database administration
Python	Very good	
C++	Good	
Java	Good	

Scripting languages:

Html	Expert
Bash Shell	Expert
Awk	Expert
Sed	Expert
Xml	Very Good

Typesetting computer programs:

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RDBMS:

MySQL	Expert
Firebird	Expert

Operating Systems:

Debian	Expert
CentOS	Expert
Scientific Linux	Expert
Suse	Very Good

Scientific Packages:

Matlab	Expert
Gnuplot	Expert
GNU Scientific Library (GSL)	Expert
Mathematica	Very Good
Fastest Fourier Transform in the West (FFTW)	Very Good
ScaLAPACK	Very Good
Paraview	Good

Profiling Tools:

PerformanceBench	Very Good
PAPI	Very Good
TAU	Very Good
Scalasca	Very Good
MpiP	Very Good
Mpitrace	Very Good
HPCToolkit	Good
KOJAK	Good
SCALEA	Good
Vampir	Good

Simulation:

SimGrid	Good
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