

VLASIA ANAGNOSTOPOULOU

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Education

University of California, Santa Barbara, CA - 2007 - Aug. 2012 (Expected graduation)

Ms./Ph.D. student in Computer Science. GPA: 3.88/4

National Technical University of Athens, Greece - 2001 - 2006

Diploma in Electrical and Computer Engineering. GPA: 8.18/10

Technical University of Munich, Germany - 2005-2006

Exchange student with the european program Socrates/Erasmus.

Experience

Graduate research student at the Architecture Lab at UCSB, CA - 09/2009 - present

- My research focus is energy-efficiency in large-scale systems. On one hand, I investigate hardware and software mechanisms for energy-efficiency in datacenters. On the hardware side I have looked into low-power states for servers, while on the software side I have developed middleware software for power-aware cpu- and memory allocation, as well as efficient caching and request distribution.
- I also investigate energy-efficiency on enterprise servers. I have worked with developing an SLA-driven power governor for the cpu, and I am currently working on the extension of this module for multiple workloads, as well as SLA-driven power management for the memory (DRAM and PCM).

Research internship at Intel Co., AZ - 02/2011 - 08/2011

- Investigated SLA-driven energy savings potential for enterprise servers by manipulating the system's p- and c-states
- Implemented SLA-driven, OS-independent power governor (in perl)
- Investigated potential for memory energy savings using color-hint allocation, for colored memory regions; implemented a linux driver which splits memory into colored regions; the objective of the driver is to be incorporated into a prototype for the practical investigation of color-based memory energy savings potential (in C)

Teaching assistant at UCSB, CA - 09/2007 - 12/2008

Courses taught: Operating Systems, Intro to Programming Languages, Data Structures, Hardware/Software interface

Software developer at Intel Co, OR - Summer 2008

- Extended prototype software platform used to add context to hand-held devices for improved user experience, by exploiting info from embedded sensors and internet-services (in C++, using Microsoft Visual Studio)
- Implemented demo and presented at the company's annual developer's forum

Product developer at Qimonda AG (former Infineon), Munich, Germany - 11/2006 - 04/2007

- Created a graph-based simulator for DDR2 architectures with the objective to exploit the trade-off between power consumption and performance in new architectures (in C++, using Eclipse platform)

Undergraduate research student at Istanbul Technical University, Istanbul, Turkey - Summer 2005

- Designed a microprocessor-based relay to protect high-voltage systems from voltage outage

Publications

- I. **SLA-Guided Memory Allocation for Energy Conservation in Database Servers.** Work in progress.

- II. Vlasia Anagnostopoulou, Martin Dimitrov and Doshi Kshitij. **SLA-Guided Energy Savings for Enterprise Servers**. Paper under submission
- III. Vlasia Anagnostopoulou, Susmit Biswas, Heba Saadeldeen, Ricardo Bianchini, Tao Yang, Diana Franklin and Frederic T. Chong. **Power-aware Resource Management for Cpu- and Memory-intense Internet Services**. Paper under submission
- IV. Vlasia Anagnostopoulou, Susmit Biswas, Heba Saadeldeen, Alan Savage, Ricardo Bianchini, Tao Yang, Diana Franklin and Frederic T. Chong. **Barely-Alive Memory Servers: Keeping Data Active in a Low-Power State**. To appear in *ACM Journal of Sustainable and Green Computing Systems*. June 2012.
- V. Vlasia Anagnostopoulou, Martin Dimitrov and Doshi Kshitij. **SLA-Guided Energy Savings for Enterprise Servers**. Short paper to appear in *Proceedings of the 2012 IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS)*, New Brunswick/NJ, April 2012.
- VI. Vlasia Anagnostopoulou, Heba Saadeldeen and Frederic T. Chong. **Quantifying the Environmental Advantages of Large-Scale Computing**. In *Proceedings of the First International Green Computing Conference (IGCC)*, Chicago/IL, August 2010.
- VII. Vlasia Anagnostopoulou, Susmit Biswas, Alan Savage, Ricardo Bianchini, Tao Yang and Frederic T. Chong. **Energy Conservation in Datacenters through Cluster Memory Management and Barely-Alive Memory Servers**. *Proceedings of the 2009 Workshop on Energy Efficient Design (WEED)*, Austin/TX, June 2009.
- VIII. Vlasia Anagnostopoulou. **Exploiting Multi-core Processors For Memory-bound Numerical Codes By Using Prefetching Techniques**. *Diploma thesis*. Department of Informatics, Technical University of Munich (TUM), Munich, Germany, October 2006.

Selected Projects

- Implemented an automatic tempo-based bayes classifier to classify a library of over 2,000 pieces of Argentine tango music. Used machine-learning in order to train the classifier, the accuracy of which stood at over 70%.
- Parallelization of the Laplacian Eigenmaps method, a method for non-linear dimensionality reduction with several applications in data mining and information retrieval. Implemented heuristics for theoretical and implemented solutions for each step of the method (in C++)
- Developed a fair sharing scheme for the branch predictor resource on a Chip Multi-Processor (CMP). The scheme leveraged instruction-level parallelism, which is a key factor of CMP performance (in C)
- Created multi-criteria tool for filtering search results based on search language. Used rule-based criteria, of alphabetical, lexicological and grammatical rules, able to distinguish among the 6 most spoken European languages (in Java, used Yahoo! Search engine and database on Apache Tomcat)
- Investigated the efficacy of Single Instruction Multiple Data (SIMD) instruction sets on current x86 desktop PC processors in order to determine whether their inclusion in the instruction set architecture (ISA) justified the additional die real estate (that could otherwise be used for additional cores)

Computer Skills

- **Programming Languages:** C, C++ and Java (expert), Pascal and Fortran (basic)
- **Operating Systems:** Ubuntu, Linux, Mac OS X, Windows,
- **Databases:** PostgreSQL, MySQL, Microsoft SQL Server, Microsoft Access
- **Scripting languages:** perl, awk, bash, python

Languages

English (proficient), German and Spanish (fluent), Portuguese (intermediate), Greek (native)

Honors

Scholarship to attend the Richard Tapia Celebration of Diversity in Computing Conference, Portland/OR - 04/2009

Scholarship to attend the Committee on the Status of Women in Computing Research conference (CRA-W), Seattle/WA - 03/2008

Award for excellence by the Greek Ministry of Education - 2001

Memberships

ACM SIGARCH Student

Miscellaneous

Argentine tango, literature, swimming

Studied classical piano for 14 years

President of the local group of Women in Computer Science (2008-2009)

Volunteer during the World Cup in Germany (2006) and the Olympic Games in Greece (2004)

Public relations for BEST, a european student organization for the mobilization of students of technology (2003-2004)

Referrals (upon request)

Professor Frederic T. Chong, UC Santa Barbara,

Professor Ricardo Bianchini, Rutgers University

Professor Tao Yang, UC Santa Barbara

Dr. Doshi Kshitij, Principal Engineer at Intel Corporation