Vasileios Zois | Curriculum Vitae

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"Give me a place to stand, and I will move the world." - Archimedes

Education

Department of Computer Science — **University of Southern California**
PhD Student in Computer Science, Los Angeles — *2013–201x*

Department of Computer Science — **University of Southern California**
Master of Science in Computer Science, Los Angeles — *2013–2015*

Computer Engineering & Informatics Department (CEID) — **University of Patras**
Graduate Student in Computer Science, Patras, Greece — *2012–2013*

Computer Engineering & Informatics Department(CEID) — **University of Patras**
Diploma in Computer Engineering & Informatics — *2007–2012*
Equivalent to Masters Degree. Graduated among the top 4% of his class.

Diploma Thesis

Title: *Information Retrieval in Cloud.*

Supervisors: Professor Panagiotis(Peter) Triantafillou & Professor Ioannis Garofalakis

Description: The main subject of the thesis revolves around distributed filesystems and key value stores such as HDFS and HBase. I developed certain algorithms to sustain and access B, B+ Trees using the aforementioned technologies. The thesis is supported by an strong implementation along with several experimental results.

Awards/Honors

2015: Gerondelis Foundation Graduate Study Scholarship Program.

2012: Graduation at the top 4% of my class from the Department of Computer Engineering & Informatics, University of Patras Greece.

2007: Honorary Award for successful admission at the Department of Computer Engineering & Informatics, University of Patras.

2007: Award for Outstanding Performance in high school activities awarded by the Ministry of Education (18,2/20 GPA).

2006: Award for Outstanding Performance in high school activities awarded by the Ministry of Education (18,2/20 GPA).

Research Interests

–: Parallel Heterogeneous Architectures & Distributed Systems.

–: Data mining and Machine Learning Applications.

–: Graph Analytics on Many-core Architectures.

–: Application Development for HPC Systems.

–: Decentralized Algorithms for Data Intensive Applications.

Experience

Vocational

Computer Science **University of Southern California**
Teaching Assistant *2015–2016*
Information Retrieval and Web Search Engines

Computer Science **University of Southern California**
Research Assistant *2015–201x*
During this period i am working on the field of heterogeneous computing studying architectures that consist of accelerators (i.e. GPU, FPGA) and CPUs. My main goal is to discover applications that are critical to data mining and machine learning that can benefit from heterogeneous computing. I am mainly interested in designing and implementing work-efficient primitives for highly parallel architectures. As a work in progress, i have designed and implemented a highly parallel, work-efficient algorithm that used to compute the support count for a given set of rules. Support count is used in association rule mining to discover frequent occurring rules. Association rule mining appears in many real life applications such as market basket analysis, traffic accident patterns, bioinformatics applications, intrusion detection in critical systems and web traffic analysis.

Computer Science **University of Southern California**
Research Assistant *2013–2015*
I have been an active member in the Los Angeles Smart Grid Regional Demonstration Program researching technologies that address the real-time challenges associated with the ever growing energy demand in large urban areas such as the city of Los Angeles. This project has been a collaborative effort between the University of Southern California (USC), the Jet Propulsion Laboratory (JPL), the University of Southern California, Los Angeles (UCLA), the Los Angeles Department of Water & Power (LADWP) and the Department of Energy (DOE). My contribution is the development of a software platform for intelligent demand side management and peak load relief in power grids. The corresponding software platform is being used at the USC micro-grid as a suggestion tool to deal with excessive energy demand. Additionally, i have introduced the concept of Sustainable Demand Response (SDR). SDR is related to the inherent criticality of demand response events introducing additional constraints that aim at ensuring a sustained energy reduction.

Department of Computer Engineering & Informatics **University of Patras**
Teaching Assistant *2012–2013*
Object Oriented Programming (Java)

Selected Coursework

Advanced Distributed Systems: Fault-tolerant distributed systems, NoSQL systems, distributed programming models, distributed transactions, replicated state machines, logical time and consistency protocols.

High Performance Computing/Parallel Programming: Parallel algorithms & programming models, Shared memory architectures, Message passing interface, Map-reduce, Quantum computing, Heterogeneous architectures.

Methods & Technologies for Large Scale Data Management: Secondary memory algorithms and models, Cache oblivious algorithms, Advanced data structures for high dimensional indexing, Temporal & Spatial Databases.

Database Systems: Data and information modeling, Relational and extended relational models, Database manipulation languages, Online analytical processing, Storage structures and access

methods, client-server architectures, Recovery, logging and concurrency control.

Advanced Algorithmic Techniques for Unstructured Networks: Sensor networks, communication algorithms and protocols, data propagation techniques.

Significant Projects

2014: Smart Grid Policy Engine (SGPE)

2013: DR Decision Support System (DDS)

2011: Batch B,B+ Tree Builder on HBase from Raw Data.

Publications

2016: V. Zois, A. Panangadan. and V. K. Prasanna. Accelerating Support Count for Association Rule Mining on GPUs. *ParLearning - Parallel & Distributed Processing Symposium Workshops (IPDPSW), 2016 IEEE International. IEEE, 2016*

2015: M. Frincu, C. Chelmis,S. Aman, R. Saeed, V. Zois, V. Prasanna, C. Fern and A. Ackbari. Enabling Automated Dynamic Demand Response: From Theory to Practice. *International Conference on Future Energy Systems*.

2015: V. Zois, C. Chelmis and V. Prasanna - Querying of Time Series for Big Data Analytics. *Handbook of Research on Innovative Database Query Processing Techniques*.

2014: V. Zois, M. Frincu, C. Chelmis, M. R. Saeed, and V. Prasanna. Efficient customer selection for sustainable demand response in smart grids. *5th International Green Computing Conference (IGCC), pages 1 - 6*, IEEE 2014.

2014: V. Zois, M. Frincu, and V. Prasanna. Integrated platform for automated sustainable demand response in smart grids. *International Workshop on Intelligent Energy Systems (IWIES), pages 64 - 69*, IEEE, 2014.

Computer skills

Basic[1]: R, Pascal, CSS, HTML, Javascript.

Intermediate[2]: Android, OpenGL, Matlab, Go, XML/XSL, SQL, PHP.

Advanced[3]: Java, C/C++, Python, CUDA, OpenCL, OpenMP, Pthreads, MPI, MapReduce, Visual Studio, Eclipse, Linux, Windows, Latex.

Languages

Greek: Mother-tongue

English: Advanced *Cambridge First Certificate, Michigan Certificate of Proficiency in English, TOEFL iBT 101/120*

German: Basic *Goethe Institute Zertifikat Deutsch*

Interests

- Movies, Video Games, Soccer

[1] one year experience.
[2] two years experience.
[3] three years or more.