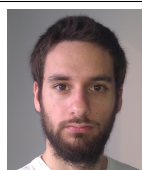


# FILIPPOS VASILAKIS



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## PROFILE

My intention is to solve real world problems using science, especially mathematics. I believe that behind every practical solution there is an extensive mathematical model that can characterize its performance evaluation. I always tend to lie in between theoretical foundations of computer science and software engineering for the implementation of these practical solutions.

## STATUS

I have just finished my thesis with my Prof. [S. Nikolettseas](#) in wireless rechargeable sensor networks. However, I continue to collaborate with Prof. S. Nikolettseas on a new paper again in the field of WRSNs. Also, in my free time, I conduct a study on the state of the art papers on decentralized OSNs <sup>1</sup>. My intention is to understand the progress that has been made in this field, the research challenges that these networks oppose and develop a new distributed OSN (build upon Ruby on Rails) that differentiates from such networks like [DIASPORA\\*](#).

## RESEARCH INTERESTS

- **Data Networks**  
Wireless Sensor Networks, Wireless Rechargeable Sensor Networks, Wireless Networks, Fault-tolerant Networks  
Algorithms and models for such networks are in my interests.
- **Online Social Networks**  
I am really interested in the challenges that Distributed OSNs oppose.
- **Distributed Systems**  
Distributed algorithms especially for Routing & Flow control in networks

## EDUCATION

SEPT 2006 - SEPT 2012 Undergraduate student of Computer Engineering and Informatics Department (*CEID*),  
 School of Engineering(5-year Degree), University of Patras  
 GPA: 7.94/10  
 JULY 2006 Lyceum of Agios Stefanos, Athens

## RESEARCH EXPERIENCE

**09/11 – 7/12 Thesis: Efficient Energy Management in Wireless Rechargeable Sensor Networks**  
 I worked on energy matters in sensor networks under the supervision of Professor [S. Nikolettseas](#). My work involved theoretical research of graph and probability models (my favourite) in order to achieve novel results in the area of sensor networks that use mobile rechargers. A [part](#) of my thesis was published in [MSWIM 2012](#) conference.

**03/11 – 7/11 cBox: A decentralized system for resources sharing that enables peer communication in an heterogeneous environment** The cBox system is a collection of services, libraries and applications that can be used to share resources, such as Internet connectivity, with other members of an ad-hoc network, in a transparent and safe way. The system features include delay tolerant networking, caching of the web requests and fully decentralized operation using well established technologies such as ZeroConf, mDNS to allow the devices to discover compatible services.  
**I was the head of** AndroidWiselib team which aimed to porting Wiselib library(C++) in Android using JNI and Native Development Kit. It involved C/C++ code wrapped in Java code using native interfaces. The [cBox project](#) led to [1 paper](#) under the supervision of [Dr. I. Chatzigiannakis](#).

<sup>1</sup>a very interesting paper [here](#)

## ACADEMIC EXPERIENCE

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10/10 – 01/11 Assistant in the Distributed Systems I Course, CEID, University of Patras  
10/10 – 01/11 Assistant in the Microprocessors Lab, CEID, University of Patras  
03/09 – 06/09 Assistant in the Assembly Language Lab, CEID, University of Patras

## PUBLICATIONS

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### BACHELOR'S THESIS

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- **Efficient Energy Management in Wireless Rechargeable Sensor Networks** (abstract in English)  
Filippos Vasilakis  
*Computer Engineering and Informatics Department, University of Patras, Greece, 2012*

### CONFERENCE PUBLICATIONS

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- **Efficient Energy Management in Wireless Rechargeable Sensor Networks**  
C. M. Angelopoulos, S. Nikolettseas, T. P. Raptis, C. Raptopoulos and F. Vasilakis  
*Accepted in the 15th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems 2012 (ACM MSWiM '12), Paphos, Cyprus*
- **cBox: A decentralized system for resources sharing that enables peer communication in an heterogeneous environment**  
K. Akasoglou, A. Baltas, E. Gkatzouras, N. Kapetanios, D. Karavias, K. Moustakakis, G. Oikonomou, N. Palaghias, G. Papaneofytou, N. Triantafyllis, F. Vasilakis, O. Akribopoulos, C. Koninis, M. Logaras and I. Chatzigiannakis  
*Eureka! Conference, October 2011, Kastoria, Greece*

### TALKS

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- **New challenges that emerge from Wireless Recharging Sensor Networks**  
Filippos Vasilakis  
*Computer Engineering and Informatics Department, University of Patras, Greece, February 2012*
- **State of the Art research on WSNs with multiple mobile Sinks**  
Filippos Vasilakis  
*Computer Engineering and Informatics Department, University of Patras, Greece, joined talks that took place between October 2011 and January 2012*
- **Porting Wiselib's concepts in Android using JNI**  
Filippos Vasilakis  
*FOSSCOMM, Patras, May 2011*

## TECHNICAL SKILLS

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*Programming Languages:* C, C++, Java, Ruby, Matlab, ARMv7 Assembly, Bash scripting  
*Frameworks:* POSIX, OpenMP, Qt, Boost, GNU GMP, JNI, Android NDK, SDK, BlueZ, Wiselib  
*Web Development:* HTML/XHTML, CSS, SCSS, HAML, Javascript, PHP, MySQL, RoR, AJAX, XML, Google Maps API, Apache Server  
*Testing:* Rspec, Capybara and lately Jasmine  
*Versioning Systems:* Git, Mercurial, Subversion  
*Utilities:* GNU Make, Bison, TeX, LaTeX 2<sub>ε</sub>  
*Operating Systems:* Linux/Unix, Windows

## SOFTWARE DEVELOPMENT (SELECTED)

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- Development of an Online Social Application in which everyone can upload experiences (HAML, SASS, Bootstrap, Ruby, Ruby on Rails, Rspec, Capybara, Inbtrusive Javascript, JSON, [deployed on heroku](#))
- Development of a web application for house advertising, with management capabilities for Admins and users (HTML, CSS, Javascript, PHP, MySQL, AJAX, XML, Google Maps API, Apache Server)
- Design and implementation of a FAT File System and Shell (C, Posix API)
- Implementation of parallel versions of Conway's Game of Life (C, Pthreads, OpenMP)
- Parallel implementations of the Jacobi algorithm using OpenGL as graphic environment (C, Linux IPC, PThreads, OpenMP)
- Implementation of a lexical analysis and grammar parsing tools for HTML language (C, Flex, Bison)
- Implementation of Miller-Rabin primality test primality test for arbitrary-precision numbers (C++, GNU GMP)

- Design and implementation of a client-server model through Posix using Linux Processes & Threads (C, Posix API)
- Implementation of port knocking (C, Linux Sockets)
- Implementation of parallel Versions of Prim algorithm (C, Pthreads, OpenMP)
- Design and Development of a Train Tickets Booking Software (C++)
- Design and implementation of semaphores and readers-writers locks (C, Posix API)
- Development of a program that finds all the prime numbers in a given range using Wilson's theorem through parallelism (C, Pthreads, OpenMP)

A quick glance in the next links will convince you about my previous experience:

Personal website: <http://127.0.0.1/mySite/#work>

bitbucket: <https://bitbucket.org/vasilakis/>

github: <https://github.com/vasilakis>

## LANGUAGES

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*Greek:* Native

*English:* Fluent

- Cambridge Certificate of Proficiency in English (December 2009)
- Michigan Certificate of Proficiency in English (December 2009)
- TOEFL, 100/120 (November 2012)

*French:* Advanced, B2, Diplome d'études en langue française (Feb 2005)

## INTERESTS AND ACTIVITIES

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Tennis, Paintball, Open-Source, Music, Technology, Programming, Cinema